

LEATH & ROSS'S HOMŒOPATHIC PHARMACIES, 9 VERE STREET, W., And 5 ST. PAUL'S CHURCHYARD, E.C., LONDON.

Those desirous of
BECOMING AGENTS
are requested

ESTABLISHED 1835.

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9 VERE STREET,
Wholesale Department.

Our Agents'
GLASS-TOP SHOW CASE,
As it appears open.



TRADE PRICE £4 4s.
CONTENTS REALISE £7 1s. 6d.

Agents for L. & R.'s Medicines
now established in every
part of any importance in
England, some of the principal
agents in Ireland and Scotland,
and several of the British Colonies,
and India and America. Up-
wards of 1,800 persons have
accepted the Agency, and many
have found this branch a profit-
able auxiliary to their other
business.

THE NEW FAMILY CHEST
Contains 28 Bottles of the most
useful Homœopathic Medicines,
a Guide, giving the treatment of
all common complaints, the uses
of the Medicines, proper doses,
&c. In the lid are the two ex-
ternals most in use, viz., Arnica
and Calendula. It can be fitted
to hold either Pilules or Tinctures.
Price 25/; trade price, 16/8.

LEATH & ROSS'S WHOLESALE PRICE LIST OF MEDICINES, ETC., PUT UP READY FOR SALE.

PILULES—Medicated any strength up to the 30th potency.

Sixpenny Tubes, 3/- per dozen.
Ninepenny „ 4/6 „
Shilling „ 6/- „

TINCTURES—Any strength up to the 30th potency.

Sixpenny Bottles, 3/- per dozen.
Ninepenny „ 4/6 „
Shilling „ 6/- „

PILULES—Medicated to any strength up to the 30th potency

Sixpenny Bottles, 3/- per dozen.
Ninepenny „ 4/6 „
Shilling „ 6/- „

TRITURATIONS—

Sixpenny Bottles, 4/- per dozen.
Ninepenny „ 4/6 „
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PORT ORDERS ARE DESPATCHED WITH THE GREATEST PROMPTITUDE.
Special quotations for large quantities.

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BERBERINE, 1/1½, 2/9, 4/6 ... 9/6, 22/, 36/.
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TINCTURE, 1/1½, 2/9 ... 9/6, 22/.

OSINE, 1/, 1/6, 2/6 ... 8/, 12/, 20/.
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NEURALINE, 1/1½, 2/9, 4/6 ... 9/6, 22/, 36/.
GLYKALINE, 1/1½, 2/9, 4/6 ... 9/6, 22/, 36/.
ODONTALGIC ESSENCE, 1/1½, 2/9, 4/6 ... 9/6, 22/, 36/.

OZONIZED OIL, 1/, 1/6, 2/6 ... 8/, 12/, 20/.
HAIR RESTORER, 1/6, 2/6, 4/6 ... 12/, 20/, 36/.

Agents' Counter Cases, £2/2/0, £3/3/0, £4/4/0, £6/6/0, and £10/10/0.

LEATH & ROSS, LONDON.

The price of **VASELINE** is now so low, and its value so universally recognised, that it is coming into general use in Medicine, Pharmacy, and the Arts.

In 1-lb. Tins, 1s. 3d.; 5-lb. Tins, 1s. per lb.

As a natural consequence of its popularity, imitations are being manufactured, and in some cases sold, by unscrupulous parties as Vaseline—and Vaseline is also adulterated with Paraffin Wax and other matter. To prevent these frauds, we beg to inform Purchasers that our Name and Registered Trade Mark "**VASELINE**" is stamped on every Tin, and we shall be much obliged for any evidence which will enable us to prosecute anyone resorting to these practices.

Imitations of Vaseline can be readily distinguished by their grainy or crystalline structure and acrid or paraffin taste and odour.

PETROLEUM **VASELINE** JELLY

As an emollient, Vaseline is superior to any other substance yet discovered. Its marvellous healing and restoring qualities excel everything else, and it is rapidly taking its place on the toilet table to the exclusion of the various complexion powders, pomades, cosmetics, and other compounds. It will keep the skin clearer, softer, and smoother than any cosmetic ever invented, and will preserve the youthful beauty and freshness of the healthy complexion.

Endorsed by the entire Medical Press of England, France, Germany, America, &c. In general use in Hospitals, and recommended by the most distinguished Physicians, Surgeons, and Chemists throughout the world.

Pamphlets containing these editorials and recommendations post free.

We beg to call attention to the following Net Price List of our Vaseline Preparations:—

FOR MEDICINAL USE.

VASELINE (PURE). Bottles, in Fancy Card Cases, 2 sizes, 8s. and 16s. per dozen. In Boxes (wood) of 1 dozen and of $\frac{1}{2}$ dozen each.

VASELINE CONFECTIONS. For internal use. Pulmonary and other complaints. In Fancy Paper Box, 8s. per dozen.

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POMADE VASELINE will make the Hair grow when nothing else will. It keeps the Scalp free from Scurf and Dandriff. Contains no animal matter, and can never become rancid. In 3 sizes. Bottles, in Cardboard Boxes, 8s., 16s., and white in colour, superior Perfumed, glass stoppers, 33s.

VASELINE HAIR TONIC. A liquid preparation of Petroleum for Ladies' use. Bottles, enclosed in Cardboard Cases, 36s. per dozen.

VASELINE COLD CREAM, for the Complexion and use after shaving, chafing of infants, &c. Glass Pots, 8s. and 16s. per dozen.

VASELINE CAMPHOR ICE, for the Lips, Pimples, Blotches. 8s. per dozen.

VASELINE TOILET SOAP, Emollient, Antiseptic, Healing. 2 sizes. 4s. per dozen net, and 9s., less 15 per cent. discount.

VASELINE TAR SOAP, One size. 9s., less 15 per cent. discount.

VETERINARY VASELINE, for Diseases of Animals, also for smearing guns, arms, instruments, &c., to prevent rust. 1-lb. tin, 1s.; 5-lb. tin, 10d. per lb.

The following standard Ointments compounded with Vaseline as a base will be found superior to any others. They can be kept without deterioration until used up:—

Unguentum Hydrargyri ($\frac{1}{2}$ MERCURY—MERCURIAL OINTMENT).

Unguentum Zinci Oxidi.

Unguentum Hydrargyri Nitratis (CITRINE OINTMENT).

Ceratum Resinæ.

Ceratum Plumbi Subacetatis (GOULARD'S CERATE).

Pomat Camphoratum, FR.

Cerat Simplex (WHITE).

In
1 lb.
Jars,
2s. 6d.
per
Jar.

Price List, with full particulars of Medicinal, Pharmaceutical, and Toilet Preparations of Vaseline, free by post.

MANUFACTURED ONLY BY THE

CHESEBROUGH MANUFACTURING CO.,

41 HOLBORN VIADUCT, LONDON, E.C.

Silver Medal,
Paris, 1878.

ALLEN & HANBURY'S

Highest Award.
Philadelphia, 1876.

NEW (1880) SEASON'S

PURE COD LIVER OIL.

This Oil is made at our own Factory at Longva, Norway. We can therefore guarantee its absolute purity, also that it will remain clear at a temperature of 32°. The fishery this season has been large, but there is reason to believe that the supply of *really fine* Oil is below the average. Half-gallon Winchester and in Stone or Tin Bottles, 8s. per Gallon; 1 dozen Winchester, 3d. less; in 26-Gallon Tin-lined Casks, 7s. 3d. per Gallon.

SILVER MEDAL, PARIS, 1878.

ALLEN & HANBURY'S



JUJUBES

A. & H.

TRADE



MARK.

PREPARED BY

PATENT PROCESS.

A.D. 1715.

		1 lb. size.	1/- size.	6d. size.		1 lb. size.	1/- size.	6d. size.
		Per doz.	Per doz.	Per doz.		Per doz.	Per doz.	Per doz.
FEED LIQUORICE		30/-	8/-	4/-		32/-	8/6	4/4
CK CURRANT		"	"	"		"	"	"
ECTABLE		"	"	"		"	"	"
TRACT OF MALT	JUJUBES,	"	"	"	PASTILLES,	"	"	"
ERINE		"	"	"		"	"	"
EN	2/-	"	"	"	2/2	"	"	"
ORICE		"	"	"		"	"	"
NUM BONUM	PER LB.,	"	"	"	PER LB.,	"	"	"
ORALE		"	"	"		"	"	"
(Pâte de Jujube)	or in tin	"	"	"	or in tin	"	"	"
BERRY		"	"	"		"	"	"
ARIND	boxes.	"	"	"	boxes.	"	"	"
ET		"	"	"		"	"	"
E		"	"	"		"	"	"

All the above tins are neatly wrapped ready for sale. The One Pound Tins are returnable at 8/- per doz.

MAUVE, cut into Cubes	2/6	36/-	8/-	not supplied
MAUVE PASTILLES	PER LB.			
MAUVE SHEET	2/-			
	PER LB.			

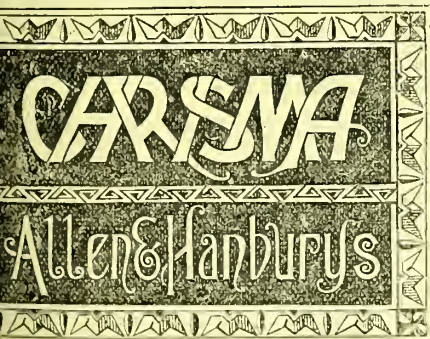
MAUVE PASTILLES (Crystallized)	2/6 per lb.	The two can be had mixed. Various assorted or mixed.
" " (Rose)	2/6 per lb.	
STALLIZED FRUIT PASTILLES	2/- per lb.	
STALLIZED VOICE JUJUBES	2/- per lb.	

PECTORAL FRUIT PASTILLES.

(Registered.)

A bronchial and pulmonic Jujube of delicious flavour.

Sold only in round boxes, to retail at 1/-, 1/9, and 3/- each; 9/-, 16/-, and 27/- per doz.



CHRISMA (Χρίσμα, unguentum)

Is a pure and perfectly neutral solid hydrocarbon derived from Crude Petroleum, devoid of smell and taste. It is of about the consistence of lard, and cannot become rancid.

ALL PACKAGES FREE.

In 1 lb. round Tins, at 11d. per lb.

In 7 lb., 14 lb., and 28 lb. square screw-capped Canisters, at 10d. "

In 56 lb. and 112 lb. square screw-capped Canisters, at 9d. "

SAMPLES POST FREE.

N.B.—ALLEN & HANBURY'S invite special attention to the lard-like consistence of CHRISMA, and its freedom from taste and smell as compared with any other article of this class in the market, also to the fact that it is actually cheaper than the best lard.

THE LANCET, May 29th, 1880.

The remarkable series of hydrocarbons, now known as the paraffins, which extends from hydrogen and marsh gas up to the hardest varieties of paraffin, are amongst the most stable of carbon compounds. The substance now before us seems to consist of the softer solids of the series. It has at the consistency of lard, is absolutely free from taste and smell, and is beautifully pure. As it cannot possibly get rancid, it is not affected by any ordinary admixture; it is beneficial in its action on the skin, and is perfectly adapted for pharmaceutical and general use. There is now no excuse for the use of lard in pharmacy."

ALLEN & HANBURY'S,

LOUGH COURT, 37 LOMBARD STREET, LONDON, E.C.

General List of Drugs, Chemicals, &c., posted free on application.

BY HER
MAJESTY'S



ROYAL
LETTERS PATENT.

ARNOLD & SONS' "SIMPLEX" ENEMA.

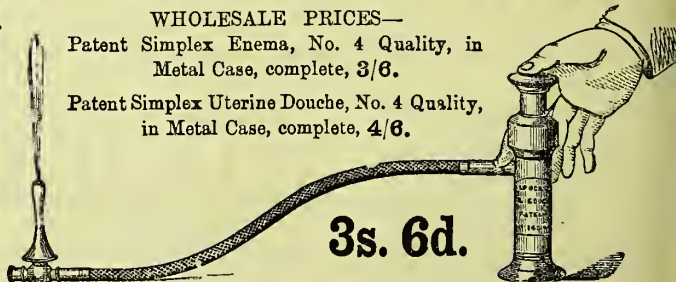
NOTICE.—ARNOLD & SONS, at the suggestion of several leading members of the Profession, have introduced a cheap form of their Patent "Simplex" Enema, which will be found to supersede all other Enemas. It is acknowledged to be the most simple, durable, and effective instrument yet introduced.

Vide *The Lancet*, August 17, 1872; *British Medical Journal*, June 22, 1872; *Medical Times and Gazette*, June 22, 1872; *Medical Press and Circular*, June 26, 1872.

WHOLESALE PRICES—

Patent Simplex Enema, No. 4 Quality, in Metal Case, complete, 3/6.

Patent Simplex Uterine Douche, No. 4 Quality, in Metal Case, complete, 4/6.



3s. 6d.

THE VAPORIFER.

5s. & 7s. 6d.



ARNOLD & SONS' PATENT VAPORIFER, BRONCHITIS KETTLE, INHALER, AND VAPOUR BATH COMBINED.

As suggested by W. L. SHEPARD, M.R.C.S., etc.

Vide *The Lancet*, Jan. 11, 1879; *British Medical Journal*, Feb. 8, 1879; *Medical Times and Gazette*, April 12, 1879.

Extract of Letter received from J. F. FINCHETTS, Esq., Portland House, Brunswick Square, W., dated Feb. 18, 1879.

"The 'Vaporifer,' all complete, came to hand safely on Saturday last, with thanks, and I consider it a marvel of cheapness and utility, and wish DR. SHEPARD, all success with his invention, which, I feel assured, only needs to be known to be appreciated. I have tried it for each of the purposes for which it is intended, and found it answer completely."

Trade Price, 42s. per doz. Retail Price, 5s. With Lamp, Saucepan, and Stand complete, 63s. per doz. Retail Price, 7s. 6d.

SOLE MANUFACTURERS
AND PATENTERS—

ARNOLD & SONS, Instrument Makers,

By Appointment to Her Majesty's Government, St. Bartholomew's Hospital, and the Principal Provincial and Colonial Hospitals, &c.

35 & 36 WEST SMITHFIELD, LONDON, E.C.

ALFRED BASTIN, WHOLESALE AND EXPORT DRUGGIST, 29 FENNEL STREET (CLOSE TO THE CATHEDRAL), MANCHESTER.

Shipping Orders carefully and economically executed. Price List Free on Application

THE
Cheapest **CONDY'S FLUID** of all.

STILL FURTHER REDUCED PRICES.

CONDY'S FLUID RED ... 1/ size, 4/ per doz. net.

" " " 2/ " 8/ "

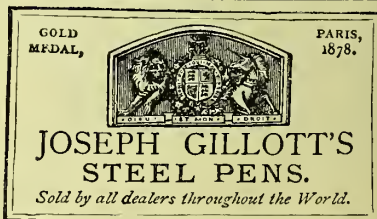
" " " 4/ " 16/ "

CONDY'S OZONISED WATER, 2/ " 8/ "

" " " 3/6 " 16/ "

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P. A. STEVENS, CHEMIST & DENTIST, 70 HYDE ROAD, HOXTON, LONDON, N. Sole Proprietor and Maker of the SILVERY WHITE GUTTA PERCA ENAMEL for Stopping Decayed Teeth.

REGISTERED—No. 3745. P. A. S. is prepared to supply the above to Wholesale Houses and Chemists, in any quantity, with their name stamped on each stick, cut any length.

To be obtained of all Wholesale Houses. Price List and Samples sent post free on Special Terms to Shippers.
SPECIAL NOTICE.—The words SILVERY WHITE GUTTA PERCA ENAMEL are registered as a Trade Mark, and will be protected.

PRIZE MEDALS AWARDED,
INTERNATIONAL EXHIBITION, 1862, & CENTENNIAL EXHIBITION, Philadelphia, 1876.



R. LOW, SON & HAYDON,

MANUFACTURERS OF CHOICE

TOILET SOAPS & EXTRACTS,

draw the special attention of the Trade to the quality of their Manufactures, and also state that they are prepared to offer the best possible value to Cash Purchasers.

For Toilet Soaps of 1 Cwt. and over stamped with Buyer's Name free of cost.

CREASOTE SOAP, REGISTERED,

New Disinfectant, in wrapped squares, 3/6 per dozen or 36/ per gross, subject to 10% at a month.

FLOWER EXTRACTS,

TRIPLE STRENGTH, viz., Ess Jasmin, Cassie, Fleur d'Oranges, Rose, Rezéda, Jonquille, Tuberoze, Ylang-Ylang, &c., 9/6 per lb., subject to 10% at one month.

Each, Rose and Orange Flower Waters, Virgin Otto de Rose, Oils Neroly, Petit Grain, Sandal Wood, Cloves, Cassia, Caraway, Geranium, Ess Bergamot, and Lemon,

all Articles used for the manufacture of Perfumery, of guaranteed purity, at Special Quotations.

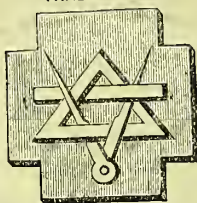
WAREHOUSE: 330 STRAND, LONDON.

"VICTORIA" OFNER MINERAL BITTER-WATER.

THE BEST NATURAL APERIENT.

TRADE MARK.

As a safe, ordinary, and gentle aperient,
In inflammation and congestion,
In rheumatic and gouty disorders,
Against undue tendency to fat,
Against hemorrhoids,
In bilious attacks and disorders of the liver,



During pregnancy and in many female diseases,
For habitual constipation,
In Organic Diseases resulting from fatty degeneration,
To remove the consequences resulting from excess in diet, &c.

The Proprietors of this Natural Spring of Laxative Water are desirous of bringing the leading features before the Medical Profession. The advantages specially claimed are, that it contains a larger amount of valuable active aperient solids than any other bitter water previously in vogue with the public, or prescribed by the faculty, and notwithstanding its rapid action as an aperient, it produces no uneasiness in its effects. It will be seen from the analytical data (below) of eminent Professional Chemists of England and the Continent, that this water contains nearly double the amount of Magnesia found in any other Bitter Water, hence it is entitled to be distinguished as a "SPECIFIC MAGNESIUM BITTER WATER."

	Analysis of Prof. H. E. ROSCOE, F.R.S., Owens College, Manchester.	Special Analysis of Prof. M. BALLO, Chemist of the City of Budapest.	Analysis of Dr. G. L. ULEX, Official Chemist of the City of Hamburg.
MAGNESIUM SULPHATE ..	32.8107	32.3800	33.60
SODIUM SULPHATE ..	17.1698	20.9640	19.55
POTASSIUM SULPHATE ..	0.4407	0.3105	1.28
CALCIUM SULPHATE ..	2.3304	1.6020	1.33
SODIUM CHLORIDE ..	1.7708	2.2431	2.28
SODIUM CARBONATE ..	1.1884	0.4980	2.10
ALUMINA ..	0.0108	0.0229	0.3
SILICA ..	0.0587	0.0444	0.6
PHOSPHORIC ACID ..	Trace	Trace	Trace
SUMMARY OF TOTAL SOLUBLE CONSTITUENTS ..	55.1798	58.0549	60.23
Do. Do. FOUND	55.7250	58.156	
DIRECTLY..			
SPECIFIC GRAVITY AT 17°C.	1.0534 AT 17°C.	1.05362 AT 14°C.	1.055

Soluble Constituents and Sulphate of Magnesia in
"Victoria Bitter Water," as compared with
other Mineral Waters.

	Soluble Constituents.	Sulphate of Magnesia.
VICTORIA Bitter Water	55.77	32.87
Rákóczy	53.53	23.06
Franz Jose	52.29	24.78
Hunyady László	51.07	24.20
Hunyady János	41.73	18.44
Königsbitterquelle ..	37.55	16.68
Elisabeth	26.29	8.04
Püllnaer Bitterwasser	32.72	12.12
Friedrichshall	25.29	5.15
Saidschützer	23.21	10.96

Retail Prices:—Litres, 1/6 per bottle; Half-Litres, 1/- per bottle.

Cases are free and contain either 25 Litre Bottles or 50 Half-litre Bottles. May be obtained of any Chemist or Patent Medicine Vendor in the United Kingdom.

THE "VICTORIA" NATURAL BITTERWASSER OF BUDAPEST, HUNGARY.
Wholesale Depot for England and Colonies:—92 & 93 Great Russell Street (corner of Charlotte Street), London, W.C.

S. MAW, SON & THOMPSON'S CORN AND BUNION PLASTERS.

CORN.

	£	s.	d.
AMADOU .. per gross	0	2	0
DITTO, 12 in a box .. per doz. boxes	0	2	6
WHITE FELT .. per gross, dot, 1/4; thin, 1/8; thick	0	2	4
DITTO, 12 in a box, per doz. boxes, thin, 2/3; thick	0	2	10
DITTO, 24 in a box (12 each thin and thick), per doz. boxes	0	5	0
WHITE FELT, ARNICA .. per gross, thin, 1/8; thick	0	2	4
DITTO, 12 in a box, per doz. boxes, thin, 2/3; thick	0	2	10
DITTO, 24 in a box (12 each thin and thick), per doz. boxes	0	5	0

BUNION.

	£	s.
AMADOU .. per gross	0	4
DITTO, 6 in a box .. per doz. boxes	0	3
WHITE FELT .. per gross, thin, 4/-; thick	0	5
DITTO, 6 in a box, per doz. boxes, thin, 2/8; thick	0	3
DITTO, 12 in a box (6 each thin and thick), per doz. boxes	0	6
WHITE FELT, ARNICA .. per gross, thin, 4/-; thick	0	5
DITTO, 6 in a box, per doz. boxes, thin, 2/8; thick	0	3
DITTO, 12 in a box (6 each thin and thick), per doz. boxes	0	6

S. MAW, SON & THOMPSON, LONDON.

TONGA,

A SPECIFIC for NEURALGIA.

ALLEN & HANBURYS are glad to state that they have now made arrangements with the proprietors of Tonga whereby they are able to make the usual allowance to the Trade. Eleven cases in which **FLUID EXTRACT** (which is now the only preparation made, and to which the name TONGA alone was used) are recorded in *THE LANCET* of March 6th and 20th and May 29th, and in not a single instance did it prove a failure.

A. & H. have also had abundant private testimony of the remarkable efficiency of Tonga. They cite the following cases from *THE LANCET* :—

A woman, aged twenty-three, had suffered for fourteen days from severe neuralgia of the infra-orbital and great occipital nerves. She had four severe paroxysms in the day, lasting from an hour to an hour and a half. Many of her teeth were loose. Three doses of the extract * cured her.

A woman suffered from neuralgia in the left great occipital nerve. Four half-drachm doses of the liquid extract * cured her.

A man, aged twenty-five, had suffered for a fortnight from severe bilateral neuralgia in the temples, in the eyes, and under the ears. Half a drachm dose of the liquid extract * thrice daily cured him in three days.

A woman, aged twenty, for ten days had suffered from severe neuralgia in the first and third branch of the fifth nerve. She had about five paroxysms, each lasting from one to two hours. A drachm of the liquid extract * thrice daily cured her in five days.

A girl, aged eighteen, suffered from toothache and severe neuralgia along the lower jaw and in front and behind the ear. A drachm of the liquid extract * cured the neuralgia in four hours.

A remedy, whilst apparently highly useful in neuralgia, has no toxic symptoms.—*From a Paper by SYDNEY RINGER, and WILLIAM MURRELL, M.D., M.R.C.P., in The Lancet, 6th, 1880.*

Results obtained from Tonga by Drs. Ringer and Murrell coincide with mine. I have notes of cases of brain and disease in which Tonga alone succeeded in removing the pain. I shall, however, confine myself to reporting the effects on the eye. It acted beneficially in several cases of asthenopia. The Eye wards gave it with great benefit to a man suffering from painful rheumatic iritis. Several patients, with inflammation of light, were rapidly relieved. A most striking result was obtained upon diminished tension of the eyeball. Months ago a lady consulted me for intense pain in the eyeball, with marked decrease of tension (T=2), intolerance of light, and watering, the pupil and cornea being clear, no conjunctival redness. The intense pain had deprived her of sleep for several nights. Some of the alcoholic extract * was dropped into the eye at 2, 5, 7, and 9 p.m. The next day all intolerance of light had ceased, and she had a good night, free from pain. She stated that the drops relieved the pain, but a sense of warmth, and that the pain in the eye subsided gradually; their use was continued for several days. Remarkable was the rapidity with which the tension of

the eyeball became normal, and remained so. All cases of neuralgia (supra- and infra-orbital branches of the fifth nerve), with swelling of the temporal veins during the attack, were benefited. In these a teaspoonful of the extract in half a tumbler of water, and two or three more at an interval of half an hour, until the pain subsided, were given.—*From a Paper by C. BAKER, Ophthalmic Surgeon to Guy's Hospital, in The Lancet, March 20th, 1880.*

W. H.—, aged thirty-one, had been suffering from most severe neuralgia in the right superior maxillary division of the fifth pair of nerves for nearly ten days. The neuralgic pains darting over the lower eyelid, the cheek, the upper lip, and side of the nose, the paroxysms lasting from ten minutes to half an hour, occurring from six to eight times in the twenty-four hours. The teeth in both the upper and lower jaw were in a very decayed condition. One teaspoonful of the alcoholic extract of Tonga * was ordered to be taken in half a wineglass of water every six hours, till the pain was relieved. The paroxysms entirely ceased after the fourth dose.

A woman, aged twenty-nine, in a very weak, anæmic state with inflamed axillary glands, had suffered from supra-orbital neuralgia for six or seven days. She was ordered one teaspoonful of the alcoholic extract * three times a day. The paroxysms ceased, and did not return, after the fifth dose had been taken.

Wm. P.—, aged thirty-two, had suffered greatly from neuralgia for nearly two years. He considered the original cause of the attacks to be a blow received about that time. The paroxysms, which occurred periodically about every month or six weeks, varied in severity and duration, and were for the most part confined to the inferior dental nerve on the left side, although occasionally the right was also the seat of pain. The patient had been under my notice for nearly a year and a half, and during that time attacks incapacitating him from following his occupation were of frequent occurrence. He was ordered one teaspoonful of the alcoholic extract * in water three times a day. The pain very much decreased after the fourth dose, and entirely ceased after the sixth dose of the extract * had been taken. In my case-book I find the following note on April 15th on this case:—“Had another bad attack, though less severe than the last. The neuralgic pain entirely disappeared after the third dose.”—*From a Paper by W. J. H. LUSH, M.D., F.R.C.P. Ed., M.R.C.S.E., &c., The Lancet, May 29th, 1880.*

* Though variously described, the preparation used in the above cases was the fluid extract above mentioned, and designated simply “Tonga.”

This date TONGA will be sold in Bottles at 4s. 6d. and 11s. (46s. and 114s. per dozen); and may be obtained through Wholesale Druggists, or from

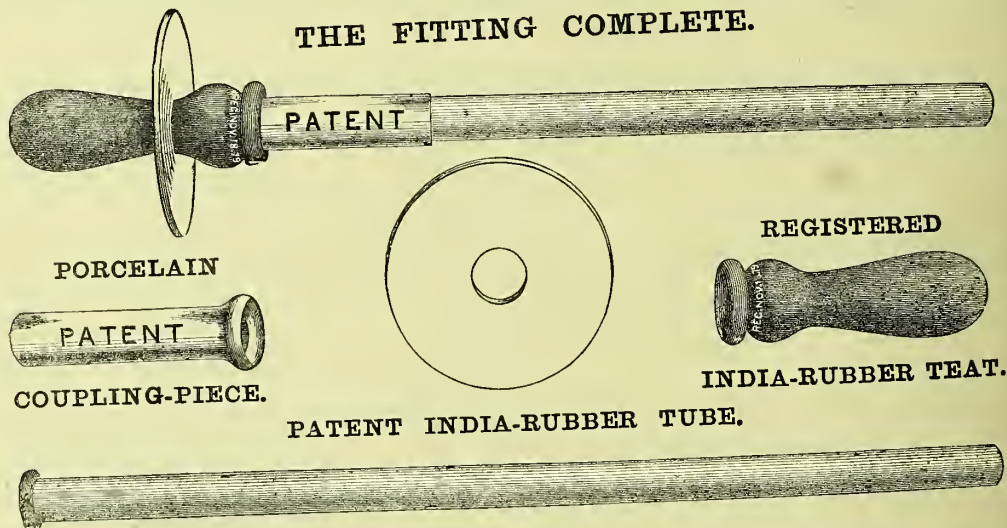
ALLEN & HANBURYS,
15, ROUGH COURT, LOMBARD STREET, LONDON, E.C.

FOR CANADA: H. SUGDEN EVANS & CO., Montreal. AGENTS FOR INDIA: SMITH, STANISTREET & CO., Calcutta.
AGENTS FOR UNITED STATES OF AMERICA: SCHIEFFELIN & CO., New York.

S. MAW, SON & THOMPSON'S IMPROVEMENT IN FEEDING BOTTLES.

Patented in England, December 4, 1879;
Patented in the United States, April 27, 1880.

THE FITTING COMPLETE.



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9 inch White per gross, 10/6	9 inch Black per gross, 15/-
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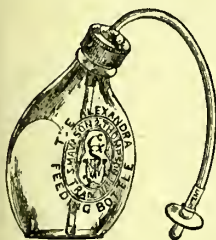
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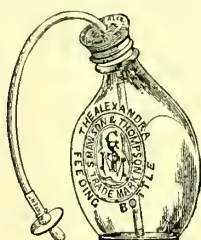
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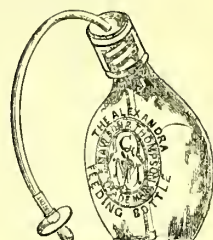
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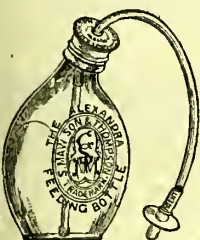
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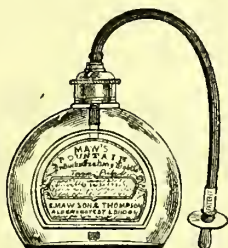
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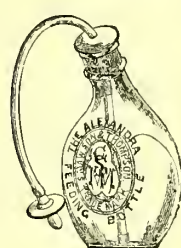
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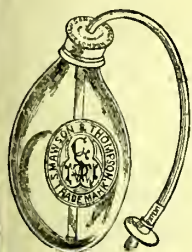
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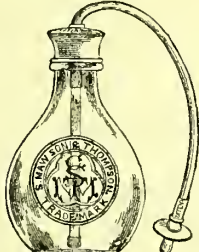
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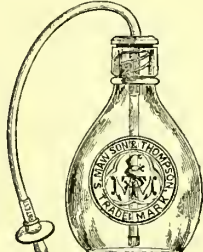
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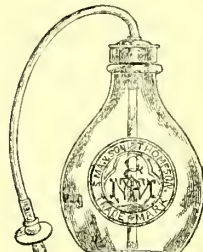
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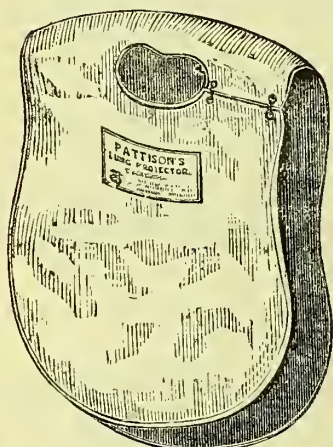
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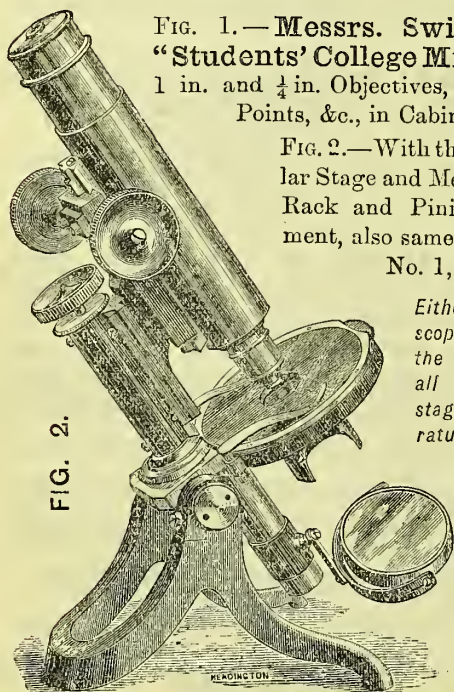
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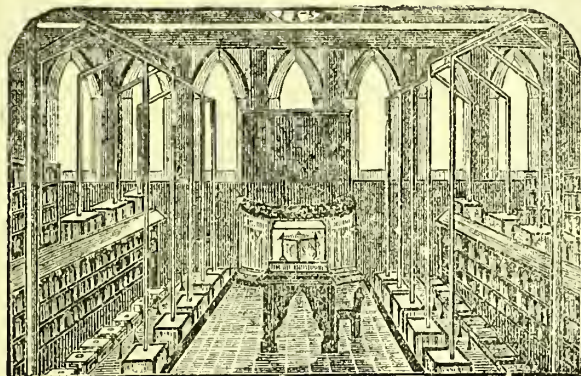
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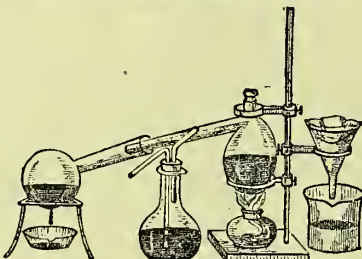
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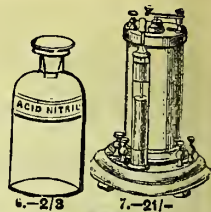
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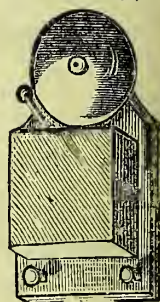
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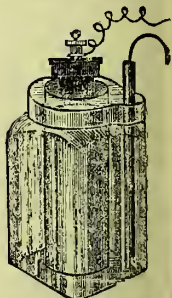


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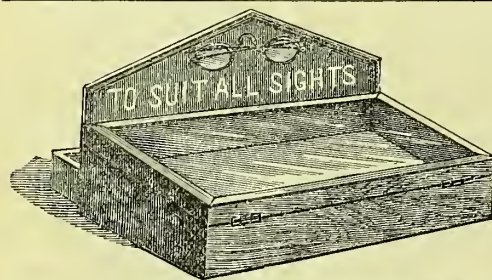
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A LL Students who are preparing should send for particulars of a method of study which will enable them to pass the examination. Enclose stamped envelope to CHEMIST, care of Mr. J. Edwards, W. Gratis, Minor examination questions. "Equations Simplified," 1

FIELD'S LIQUOR TARAXACI

Concentrated IN VACUO to a strength double that of the Succus Taraxaci of the Pharmacopœia.

The process by which this preparation is manufactured entirely excludes the injurious effects of Heat, Oxidation, and Fermentation. The active constituents remain quite uninjured; and, owing to the great care with which any incipient change is guarded against during the manufacture, this preparation keeps PERFECTLY, whilst the expressed Juice of the British Pharmacopœia, although containing 25 per cent. Rectified Spirit, quickly becomes mawkishly sweet, through the conversion of its active constituents into a saccharine matter.

Price 4/ per lb.

W. Qts. 3/10

FIELD'S LIQUOR CINCHONÆ CORDIFOLIÆ

This well-known preparation contains the whole of the active ingredients of Bark, and is manufactured with great care by a process specially devised for that purpose. It is made from the best Bark, and will be found a great desideratum to Druggists and Medical Men, as it furnishes a ready means of once preparing Decoction of Bark quite equal to that made from fresh Bark.

Thirty minims of this Preparation, diluted to an ounce (with distilled water), forms the Decoctum Cinchonæ Flavæ of the Pharmacopœia.

Price 10/ per lb.

LIQUOR CINCHONÆ RUB.

1 fl. oz. equal to 1 oz. of Best Red Bark.

Price 10/ per lb.

This preparation is made from the very finest Red Bark, and is guaranteed to contain a high percentage of Alkaloids as well as the natural Acids of the Bark.

It is of considerable use as a remedial agent in chronic intemperance, and is prescribed for that purpose by several of the London physicians.

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Rosæ Acid. Conc.	2/6 per lb.	Ext. Ergotæ Liq.	4/6 per lb.
Gentian. Co. Conc.	1/6 "	" Sarsæ. "	9/6 "
Senegæ "	3/- "	" " Specially purified from all	12/- "
Buchu "	...	...	1/6 "	" mucilaginous matter	...	...	...	2/5 "
Sarsæ. Co. Conc.	...	...	4/- "	" Glycyrrhizæ Liq.	...	...	...	2/- "
Aloes " "	...	...	4/6 "	Succ. Taraxaci, B.P.	...	...	...	2/- "

C. Sennæ, warranted very active 1/6 " | Liq. Sennæ Dulc. ... 2/6 "

Special attention is called to these preparations of Senna which are made entirely from Alexandrian Senna.

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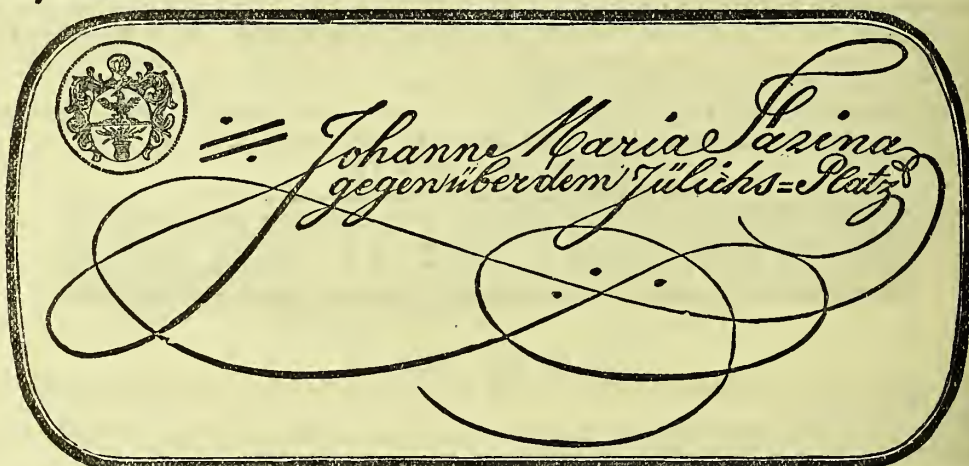
By appointment, Sole Purveyor to Her Most Gracious Majesty Victoria, Queen of Great Britain & Ireland; Their Royal Highnesses the Prince and Princess of Wales; William, King of Prussia;



Albert II., King of Saxony; Alexander II., Emperor of Russia; Francis Joseph, Emperor of Austria; Lewis, King of Portugal; H.R.H. Frederick William, Crown Prince of Prussia.

In consequence of increasing inquiries from the Colonies for my Eau de Cologne, the only genuine, beg to submit my Price Current.

At the same time I beg to call special attention to the following facsimile of my Trade Mark, for the protection of which I have instituted thirteen suits in the High Court of Chancery, all of which have been decided in my favour.



All similar Labels being more or less imitations of the same, I shall proceed as before against all persons selling or exposing for sale any such imitations.

I only prepare one quality of Eau de Cologne. This quality never varies in the slightest degree, and there has not been the smallest change in the manufacture since the year 1709, when it was invented by my ancestor.

Orders equal to at least 12 dozen short bottles will be promptly executed at 12s. 6d. per dozen, against a bill drawn at three months from the date of invoice, delivered free on board the export ship, at Rotterdam, Antwerp, Harburg, or Bremen, no charge being made for the case and packing, but insurance charged at 7½ per cent. discount is allowed for orders equal to at least 100 dozen, but on no smaller quantities.

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No. 38 Queen Street, Cannon Street, London, E.C.

The following are the sizes of my bottles:—

No. 1. Long Green Flasks	} as per figure plate	12 bottles	} to one dozen
" 2. Short White Bottles		...	...	...	...	12 "
" 3. Double ditto		6 "	
" 4. Wickered Bottles (small)		8 "	
" 5. ditto (medium)		4 "	
" 6. ditto (large)		2 "	

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MAW'S PERFUMES, in $\frac{1}{4}$ -dozen Boxes each, or assorted.

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MAGNOLIA, MILLEFLEURS, RONDELETIA, SPRING
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Corked	per doz.	7/6 & 12/-
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MAW'S PERFUMES (Superior), in Stoppered Bottles and
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10 per Cent. off Invoice, and 5 off Monthly Account.

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MAW'S SUPERIOR VIOLET POWDER & TOILET POWDER,

IN ROUND-SHOULDERED BOXES, HANDSOMELY LABELLED.

3s. 9d. per Dozen.

Packed in Outer Boxes of Half-a-Dozen.

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HIGHEST AWARD,



SYDNEY, 1879.

5/6

per
doz.

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BEST FALCON TOOTH BRUSHES.

The most perfect Brush in the market. The knots are secured by wire, as well as cemented. No loose hairs; no hairs breaking off; made with unbleached bristle, which wears longer and gives more satisfaction than the bleached. Chemists can defy Co-operation. In every variety of pattern. Name stamped if one gross is ordered.

SPECIAL CASH TERMS TO CHEMISTS, &c.

10 per cent. on receipt of Invoice; 5 per cent. in a Month: or Net on journey.

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CALE STREET DISTILLERY, LONDON, S.W.

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SEAMLESS DECORATED TIN BOXES

Suitable for Blacking, Polishing Paste, Tooth Powder, Pomade, Pills, Lozenges, &c.

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For Disinfectant Powder, Baking Powder, &c., &c., &c.

Samples and Prices will be forwarded on application on receipt of full particulars.

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For the Prevention of the Ravages of Birds, Insects, and Verm.

It Drills easily without the use of Lime, and is perfectly harmless to the germination of the Seed.

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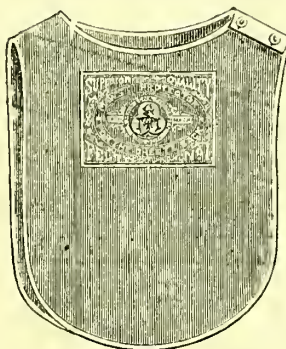
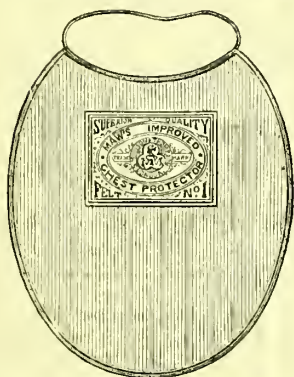
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SINGLE.

DOUBLE.

	PER DOZ.
s.	d.
...	7 6
...	9 6
...	11 6
...	14 0
...	20 0



	No.	PER DOZ.
s.	d.	
1 ...	17	0
2 ...	22	6
3 ...	28	0
4 ...	34	0
5 ...	45	0

All Scarlet, or assorted Scarlet and White.

SKIN CHEST PROTECTORS

ASSORTED SIZES { AUSTRALIAN OPOSSUM ... 16/- per dozen.
 AUSTRALIAN and LABRADOR RABBIT ... 16/- "

The above are sent out in Half-dozen Boxes each, or Assorted.

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This old-established and increasingly favourite Dentifrice has been Forty Years before the Public. It is warranted to retain its properties and keep in good condition in any climate.

The original and only genuine is manufactured solely by

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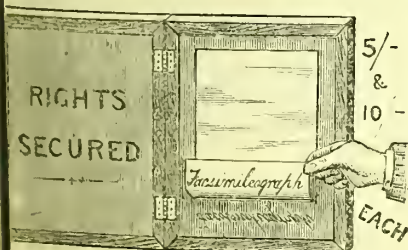
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Yours, &c.,

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Prices complete, Note Size, 5s.; Letter do., 10s.; Foolscap, 16s.; Folio, 21s.

Samples supplied at a third off above Prices.

Intelligent Traders employing canvassers can clear from £100 per month, as all business men buy eagerly at sight. Suitable for shipment, and packing free.

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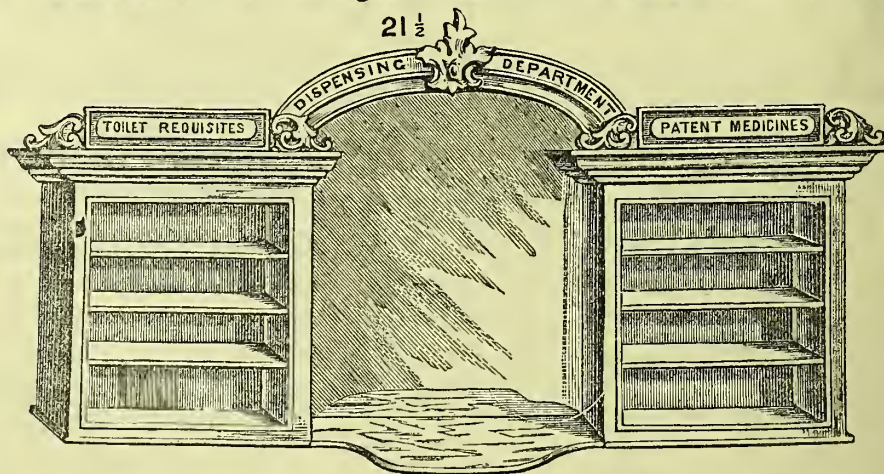
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This Case is made of choice Mahogany, with Mirror in centre, and is lined at back with Black-Embossed Leather Cloth; it has Plate-Glass Shelves, Glass Knobs on the Doors, a Marble Slab in the Centre, and is fitted with Three Shelves at back. The Case is 6 feet long, 29 inches to cornice, 33 inches to top of tablets, and 36 inches to top of centre mirror.



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Maw's Incorrodible Metallic, each in handsomely labelled box,—

No. 1	2	3	4	5	6	7	8	
10/-	21/-	30/-	32/-	40/-	45/-	50/-	56/-	per doz.
Dwarf	...	...	...	...	No. 1	2	3	
					24/-	30/-	40/-	per doz.

								£	s.	d.
Maw's Scarf, Silver-plated	...	...	...	...	...	...	per doz.	3	4	0
Ditto Gilt	...	...	...	...	...	...	,,	4	16	0
Maw's Æthereon (full-sized instrument)—Silver-plated, in paper cases	...	...	...	...	...	...	,,	2	0	0
Maw's Æthereon (full-sized instrument)—Gilt, in cloth cases	...	...	...	...	...	...	,,	3	4	0
Maw's Micro-Æthereon (diminished instrument)—Silver-plated, in morocco cases	,,	2	0	0
Gilt, in morocco cases	,,	3	4	0
Maw's Cork, in neat boxes	,,	0	6	0
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RESPIRATORS OR PNEUMOCCLIMES—JEFFREY'S PATENT.

	Superior, Richly Gilt.		Standard, Ordinary.		Common Materials.	
	Wholesale, each.	Retail, each.	Wholesale, each.	Retail, each.	Wholesale, each.	Retail, each.
Dwarf, in cardboard boxes	4/8	7/0	3/8	5/6	2/4 1/11	3/6 2/6
Hi-alene, highly finished, gentlemen's with Shawl Scarf; also removable, for using in the hand	10/0	15/0	5/4	8/0	3/4	5/0
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Na-al, variable power, ladies' or gentlemen's...	7/0	10/6
Or, low power, ladies' or gentlemen's...	6/0	9/0	4/8	7/0
Or, second or full power, ladies' or gentlemen's	8/0	12/0	5/8	8/6	3/0	4/6
Or, ditto children's	...	...	3/8	5/6	...	...
Or, asal, variable power, medium to w, ladies' or gentlemen's	9/4	14/0	7/0	10/6	4/0	6/0
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Richly perfumed, and guaranteed to contain the necessary quantity of GLYCERINE for effectually imparting to the SKIN the softening and healing properties for which it is so justly famed. 1s. 6d. Boxes of Three Tablets, 12s. per Dozen Boxes.

SELECT TOILET PREPARATIONS, extensively increasing in demand, which attests their excellent quality.

TOILET SOAPS. Per doz.			BOUQUETS. Per doz.		POMADES, &c. Per doz.	
Cent-Fleur (copyright)	2/6	Boxes of 3 tablets 20/	Cent-Fleur (copyright)		Cent-Fleur (copyright)	8/ 12/ & 20/
Jockey Club	1/6	" 12/	Star of India	...	Petroleum Pomade	12/ & 18/
Sandringham	1/6	" 12/6	White Lilac	...	Brilliantine	8/ 12/ & 20/
Eucalyptus Oil	1/6	" 12/	Birthday	...	Anglo-Eau de Cologne	8/ & 12/
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Semi-Cut Bars	1/	Bars of 6 kinds 8/6	White Violet (and 50 others)	24/	White Cherry Tooth Paste	8/ & 12/

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THE HEALING PINE TAR SOAP

(REGISTERED).

In Tablets, 6d. each; or 2s. 9d. for 6 in Box.

ORIGINATED (MAY, 1880) BY THE MANUFACTURERS—

For effectually
Cleansing and Purifying
the Skin.

WHITAKER & GROSSMITH,

22 SILK STREET,

CITY,

LONDON.

Unrivalled
for the Toilet, Bath, and
Nursery.

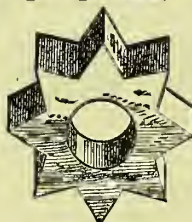
This PURE HEALING, EMOLLIENT SOAP contains a large percentage of Pure Pine Tar, the Healing and Antiseptic virtues of which are well known. By its Stimulating and Purifying action it assists in preserving health by throwing off the impurities from the system, leaving the skin clear and smooth. Its value in the prevention of Contagious Diseases is beyond question.

The constant use of this Soap will, in majority of cases, restore tanned, freckled, sunburnt complexions to freshness and beauty.

It is specially adapted for the use of Children and Infants, as a preventative of complaints.

For Shaving, it produces a creamy and sistent lather, and allays irritation.

G. F. SNOOK & SON'S NEW ARNICATED STAR CORN AND BUNION PLAISTER.



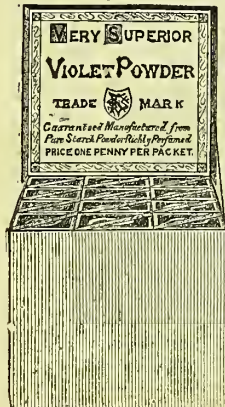
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OR WHITE SPREAD SHAPE CORN AND BUNION PLAISTER.

They will be found to possess greater advantages over all other Plaisters hitherto produced. Their chief qualities depend upon their superior adhesiveness, being composed of very adhesive ingredients, and, owing to their shape, are not so liable to be drawn off with the sock or stocking.

SPECIALITIES FOR THE SEASON

1d.



SNOOK & SON'S "INSECTO." the most effectual exterminator for all kinds of Insects, ground from the finest selected Dalmatian flowers, and guaranteed pure. 3d., 1s. 9d.; 6d., 3s. 6d. per dozen. Each box is fitted with a perforated zinc top, so that it can be used as a dredger. One dozen to any Wholesale House in London for 24 or 48 stamps. Special quotations for large quantity.

Snook & Son's New Brighton Bath Gloves. Sponge Gloves are made with thumbs, and filled with Sponge; will be found the most perfect substitute for the Sponge yet introduced. 6s. 6d. per dozen Gloves.

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Snook & Son's 1d. Violet Powder, Pure Starch, each Packet with guarantee, in Show Boxes for the counter, as per illustration. Per gross, 5s.

Snook & Son's 1d. Pure Fuller's Earth, each Packet with guarantee, packed in same style as the Violet Powder. Price per gross, 4s. 3d.

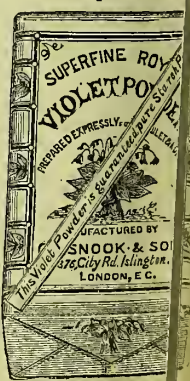
Snook & Son's 3d. and 6d. Fuller's Earth, in Round Fancy Gold Boxes, one dozen in a box. 3d., 18s.; 6d., 36s. per gross.

Any of the above goods may be had through all Wholesale Houses.

Price List or Samples free per post on receipt of business card.

376 CITY ROAD, LONDON, E.C.

1 lb.



ESTABLISHED 100 YEARS.

TOILET AND FANCY SOAPS.

OF EVERY DESCRIPTION.

EXTRA PRICE PERFUMES IN BULK.

12/ per pint of 20 ozs.

also in great variety of size, style, and price.

SOAPS.

Alphur, Petroleum, 6d. & 1/
Sage, Juniper Tar, & 4/ & 8/
Medicated Soaps, 1/ doz.
Sage Jelly, 6d. and 1/
and bobs., 4/ & 8/

T. F. BRISTOW & CO.
TOILET SOAPS & PERFUMERY.
MANUFACTURERS,
5 BISHOPSGATE AVENUE, LONDON.

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SPECIALITIES.

Carbolic Acid Soap, 1/ & 1/6 In boxes 3 tblts.
Glycerine and Carbolic Acid 1/ & 1/6
Glycerine and Oatmeal Soap 1/ & 1/6 per dz.
Baby Soap for Nursery use (In bxs. 4 & 12 tblts.
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Dog Soap (Illust Wrapper), Carpet & Cloth Soap, Pumice Stone Soap (6d. & 1/)... 3, 6 & 7/ doz.

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(THE TRUE "JAMES" POWDER),
PREPARED BY

an acknowledged reputation as an Antimonial, and its
and efficacy is verified by a continued and increasing sale
Indian Empire. Sold in 1 and 4-oz. Bottles (Troy), at
9 and 10/6; also in Packets for transmission by Post.
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TRY IT!
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In Bottles,
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HAIR, RENEW-
CLEANSING.
KENSING, and
ENTING the Hair



IT NEVER FAILS!
WASH!!

2/6 & 5/- each.

from FALLING OFF or
Turning Grey, instantly
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Dandruff, leaving the
skin pure and healthy.

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Prepared only by WILLIAM DARLING, Chemist, Manchester.
May be had from S. Maw, Son, & Thompson; Barclay & Sons;
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House in London. Price 2s. per Box, and Family Jars 10s.
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MONA BOUQUET**

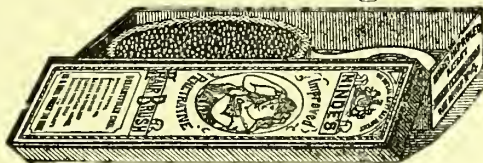
Retail, 1/1, 1/9, and 3/6; Wholesale, 9/15, and 30/ per doz.

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Houses, Wholesale Druggists, and Druggists' Sundry Dealers.

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Silvered Wires and Rings of Bristle.



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of other Wire Brushes

which, with TINNED Wires, are
claiming the speciality of the
"Silvered Wire Brush," without
its value and advantages.

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	Net Cash.	To Acct.
Plain Black Currant, old square ..	2 6	2 8
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Black Currant and Ipecacuanha ..	2 6	2 8
Black Currant and Tannin..	3 0	3 3
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(*Ipecac. and Morph., strength as "B. P.")

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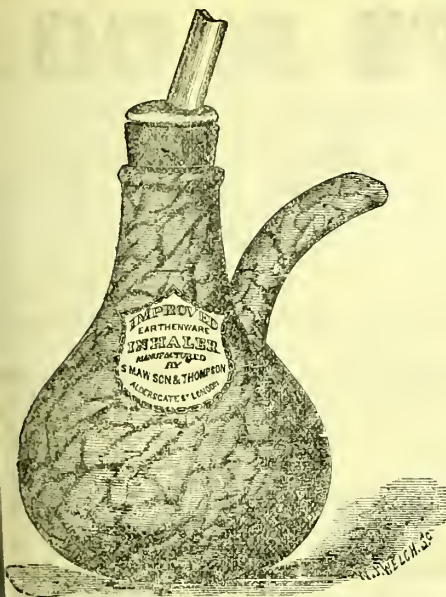
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Or through any of the Wholesale Houses, with their usual additions at a small advance.

CAUTION.—See that each package bears their label with name and weight.



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IMPROVED
ARTHENWARE INHALER,
36s. per dozen.
Elastic Tube and extra Glass Mouthpiece, 54s. per dozen.

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AND

TOILET GLYCERINE ARTICLES.

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Sarg's Double Distilled Glycerine, Chemically Pure,
Beaumé, in Cases of Four 56-lb. Tins each; Twenty 5-lb. Bottles, Fifty 1-lb. Bottles, and 100 $\frac{1}{2}$ -lb. Bottles, with Registered Label.

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Crude Glycerine, in Bulk.

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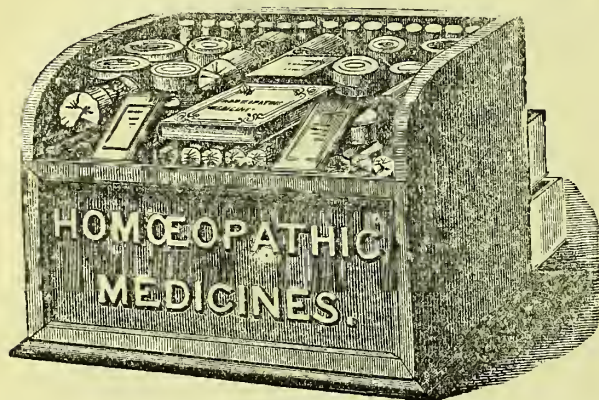
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Is quite unequalled for imparting a fresh and healthy colour to the lips and keeping them from chapping.

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CONDY'S OZONISED WATER,		2/	"	8/	"
"		3/6	"	16/	"

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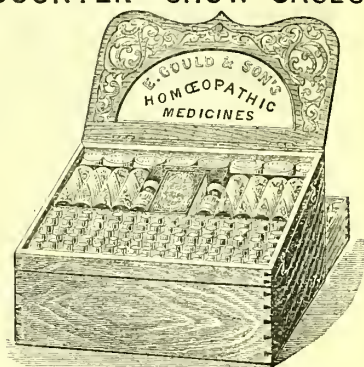
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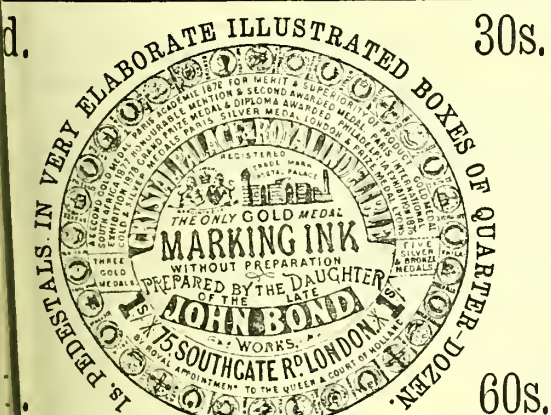
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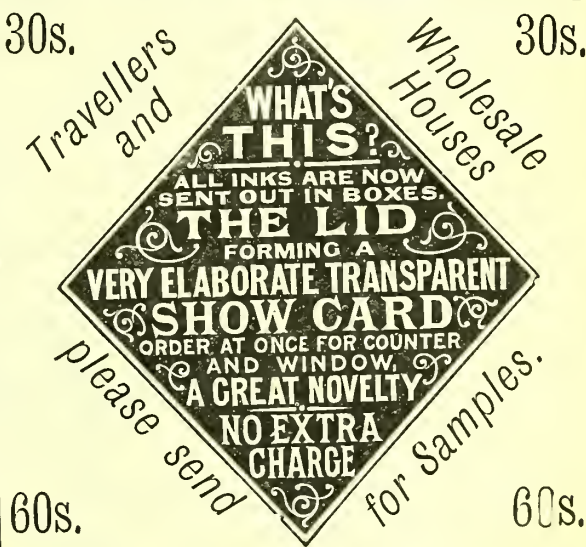
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IN ORIGINAL CASES AS IMPORTED.

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1	1st	Finest selected shapes, assorted sizes	120 to 135	12 0
2	1st	Do. do.	70 ,, 80	7 0
3	1st	Do. do.	40 ,, 50	4 0
4	1st	Small selected shapes	250 ,, 300	7 0
5	1st	Superior do. large Bath sizes	20 ,, 30	7 0
6	2nd	Do. quality shapes, assorted sizes... ..	120 ,, 130	8 0
7	2nd	Do. do. do.	70 ,, 85	4 4
8	2nd	Good quality shapes, small	250 ,, 300	3 10
9	2nd	Do. do. large Bath sizes	20 ,, 30	5 0
10	3rd	Do. do. assorted sizes	140 ,, 150	5 5
11	3rd	Do. do. do.	80 ,, 95	3 10
12	3rd	Do. do. large Bath sizes	20 ,, 30	3 0
13	4th	For Stable use, &c.	100 ,, 120	1 5

FINE TURKEY SPONGES.

14	1st	Finest selected Cups, assorted sizes	100 to 120	18 0
15	1st	Do. do. do.	50 ,, 65	10 0
16	1st	Do. do. Bath sizes	30 ,, 40	12 0

Fine Turkey Sponges—continued.

No.	Qty.		Pieces in case.	Price £ s.
17	2nd	Superior Cups, assorted sizes ...	100 to 120	12 0
18	2nd	Do. do.	50 ,, 65	7 0
19	2nd	Do. Bath sizes	30 ,, 40	4 0
20	3rd	Fine Cups, assorted sizes	100 ,, 120	9 0
21	3rd	Do. do.	60 ,, 70	5 5
22	3rd	Do. Bath sizes	30 ,, 40	4 0
23	1st	Turkey Solids, assorted sizes ...	100 ,, 130	10 0
24	2nd	Do. do.	100 ,, 120	9 0
25	1st	Flat Saddle, assorted sizes	50 ,, 60	0 0
26	1st	Do. do.	30 ,, 40	0 0
27	2nd	Do. do.	50 ,, 60	5 0
28	2nd	Do. do.	30 ,, 40	0 0

BROWN TURKEY SPONGES.

29	1st	Finest selected, assorted sizes ...	130 to 150	10 0
30	1st	Do. do.	70 ,, 80	15 3
31	2nd	Superior quality, do.	130 ,, 150	0 0
32	2nd	Do. do.	70 ,, 80	0 0
33	3rd	Slate quality, do.	300 ,, 400	1 0

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SUCCESSORS TO THE LATE MR. W. MATHER, LONDON,

BEG RESPECTFULLY TO INTRODUCE TO THE TRADE

A PERFECT PILL-COATER

COMBINING THREE EXCELLENT QUALITIES, VIZ.:

SIMPLICITY, UTILITY, & CHEAPNESS.

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IN BEST

TINNED COPPER,

PRICE 5/- EACH,

Will Coat from a Dozen Pills upwards (either Pearl or Sugar Coating) equal to the most expensive machine.

The art of Pill-coating is, as yet, but imperfectly understood by Chemists generally. A simple rotary motion in a thin solution, sparingly used, is all that is required, with finely-powdered French chalk for pearl coating, and powdered starch for sugar coating. A little practice will soon overcome all difficulties.

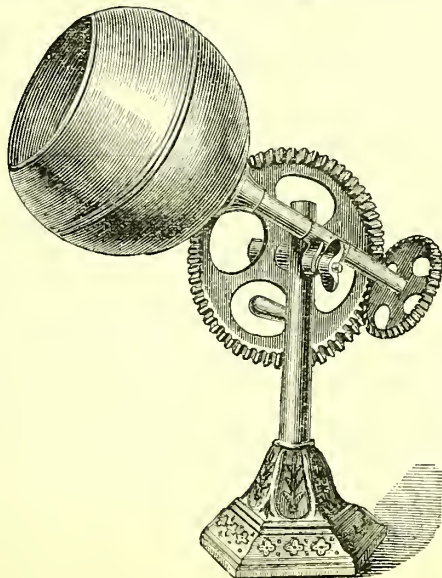
In case too much solution has been added, a little heat from a spirit lamp or gas jet will easily dispel the superfluous moisture. The pills must be very round, hard, and dry. Care should be taken to use only the best and finest powders; the best solution half a dram of syrup and mucilage in an ounce of water. Gums or resins are quite unnecessary for well made pills.

Harvey, Shepherd & Co.'s A-1 Pill-Coating Solution

In Bottles, 2/- and 4/- each.

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They are now in use in
France, Germany, Russia,
Spain, Africa, America,
Australia, Canada, East

and West Indies, New
Zealand, and by the
Chief Chemists of the
United Kingdom.

REDUCTION IN PRICE: No. 1 (to coat up to 1 lb.), 20/- each.

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IN COVERED JARS.



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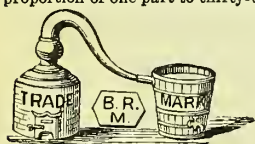
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THE UNIVERSAL TOOTHACHE SYRINGERetail,
6d. each.Wholesale,
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Is a great improvement upon the "DENTAL SYRINGE," as the fluid is contained in a glass bulb, which enables its contents to be seen, also prevents the liability to evaporation through long keeping or exposure.

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1 doz. mounted on a handsome Illustrated Show-Card, Retail, 6d. each; Wholesale, 3s. 6d. per doz. It is especially adapted for Export Trade, and may be safely sent to the hottest climates, as each glass tube is hermetically sealed and enclosed in a card-board case. N.B.—Both the above are exempt from Stamp Duty by permission of the Board of Inland Revenue.

CONCENTRATED WATERS.—One Ounce of these Waters added to Forty Ounces of Distilled Water forms a clear Medicated Water (without filtering), similar in every respect to those prepared according to the directions of the British Pharmacopœia, and free from all Chemical impurity. They are prepared to supply a want long felt by Chemists and Medical Men, and by their use a fresh supply of any of the Medicinal Waters may be obtained at a moment's notice. They are not affected by age in any climate. N.B.—Used in the proportion of one part to thirty-two of water they represent the Medicinal Waters of the United States Pharmacopœia.

	Per lb.		Per lb.		Per lb.		Per lb.
Aqua Anethi, Concent.	4/0	Aqua Cinnam. Ver. Concent.	6/0	Aqua Fœniculi, Concent.	4/0	Aqua Pimentæ, Concent.	4/0
" Anisi,	4/0	" Cassia,	4/0	" Menth Pip.	4/0	" Rosæ	8/0
" Camphoræ,	4/0	" Flor. Aurant,	8/6	" Ang. Con.	6/0	" Rosæ Virgin	10/0
" Carui,	4/0	" Flor. Sambuci,	8/6	" Virid.	4/0		

The above are put up in Bottles of 1/2 lb. or 1 lb. and upwards. each of which has the Inventor's Protection Label over the

Wholesale Agents—Heaton & Co., Maw, Son, & Thompson, Lynch & Co., London; Evans, Sons & Co., Rain

Liverpool; Mather, Woolley, Manchester; Bewley & Draper, Dublin; Glasgow Apothecaries' Co., Hatrick & Co., Gl

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for large quantities may be had from

B. ROBINSON, Operative Chemist, Distiller and Brewer of British Wines, Manchester.

SAVAR'S

TRADE  MARK.

POROUS MARGINAL PLASTERS

ON LEATHER.



FIG. 1.

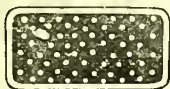


FIG. 2.

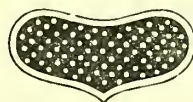


FIG. 3.

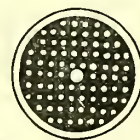


FIG. 4.

Balsamic, Belladonna, Calefaciens, Capsicum, Opium, Roborans, Strengthening, or any other Material.

These Plasters are spread on Leather specially prepared and perforated; they are ventilating, more able, adhere more closely, and in every way superior to ordinary Marginal, or to the India-Rubber porous Plasters spread on Calico.

LIST OF PRICES.

On Leather.	No.	Retail Price.	Balsamic, Calefaciens, Roborans, or Strengthening.	Retail Price.	Belladonna, Capsicum, or Opium.
			Per Doz. s. d.		Per Doz. s. d.
Heart Shape Fig. 1.	1	1½d.	1 0	—	—
	2	3d.	2 0	4d.	2 8
	3	4d.	2 8	6d.	4 0
	4	6d.	4 0	8d.	6 0
	6	8d.	6 0	1/-	8 0
Long Shape Fig. 2.	1	1½d.	1 0	—	—
	2	3d.	2 0	4d.	2 8
	3	4d.	2 8	6d.	4 0
	4	6d.	4 0	8d.	6 0
	6	8d.	6 0	1/-	8 0
	8	1/-	8 0	1/6	12 0
Saddle Shape Fig. 3.	—	8d.	} Roborans or } } Strengthening }	—	—
	—	1/-		—	—
Round Shape (for Breasts) Fig. 4.	4	6d.	} Emp. } } Plumbi }	8d.	Belladonna } 6 0 or Opium } 8 0
	6	8d.		1/-	

Less 10 per cent. Discount, 3 Months' Current Account.
Special Quotations to Wholesale Buyers.

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CHEST PROTECTORS.

Best Quality Felt, Scarlet or White.

SINGLE.					DOUBLE.				
No. 1	6/0 per doz.	No. 1	15/0 per doz.
„ 2	8/0 „	„ 2	21/0 „
„ 3	10/0 „	„ 3	26/0 „
„ 4	12/0 „	„ 4	32/0 „
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Sundries, &c., forwarded on Application.*

The XLCR DISINFECTING POWDER,

Guaranteed to contain 18 to 20% of Carbolic Acid.

The XLCR

PASTE, ROLL, LIQUID, & TIN
BLACKING,

THE BEST IN THE TRADE.

The XLCR

WATERPROOF BLACKING.

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JET BLACK, BLUE BLACK, &
COPYING INKS.

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KID REVIVER & KID CREAM
&c., &c.

MORRIS & GRIFFIN, MANUFACTURING CHEMISTS, **CERES WORKS**
WOLVERHAMPTON.

ESTABLISHED 1821.

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TRADE PRICE

WEBSTER'S MANILLA CABINET PAPER.

The true specific for Piles.

Trade



Mark.

This paper is manufactured from Manilla grass and is impregnated with the following medicaments, viz.:—Carbolic Acid, Wormwood, and Bromo-Chloralum, in such proportions as to render its use at once healing and preventive.

The formula is the property of the eminent Dr. Webster, who testifies that "during a lengthened experience" he has "never known it to prove inoperative."

SOLD IN CARTONS, CONTAINING 500 SHEETS, AT

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11s. 6d. per doz., less usual Discount.

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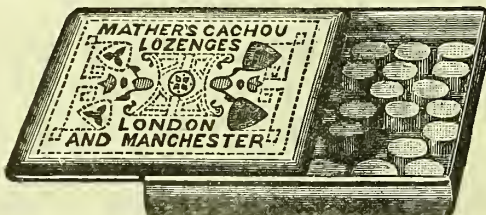
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THE BEST, CHEAPEST, AND MOST SALEABLE NOVELTY OF THE YEAR.
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CACHOU LOZENGES,

IN PATENT METAL SLIDE BOXES.

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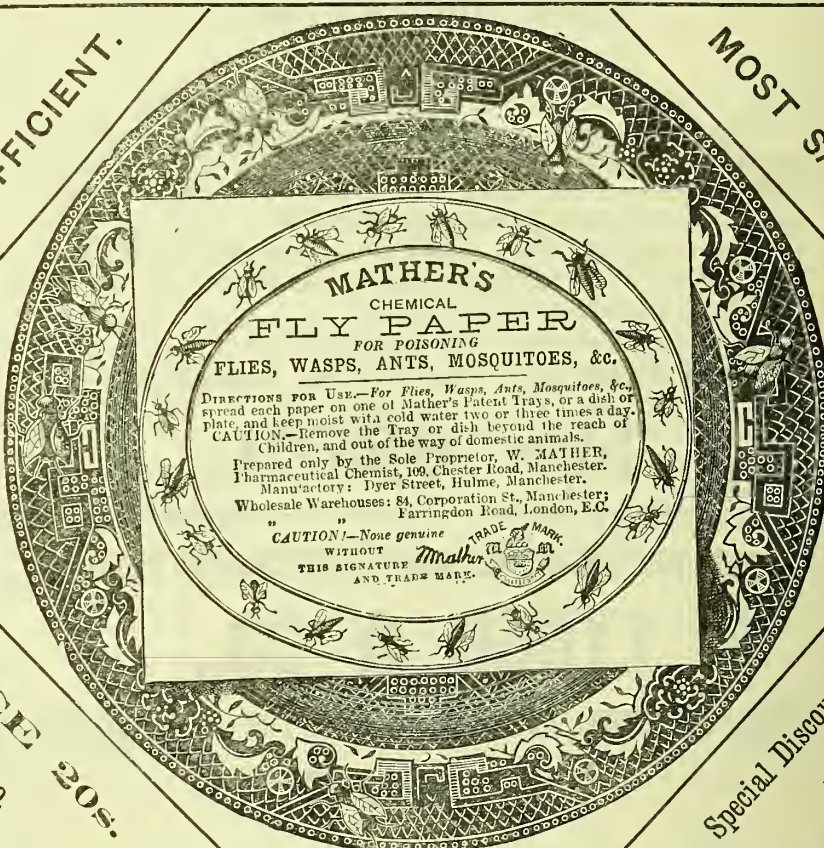
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THE
MOST EFFICIENT.

THE
MOST SALEABLE.



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Per 1,000.

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October 15, 1880.

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Whole Page, £5. Half Page, £2 15s. Third Page, £2. Quarter Page, £1 12s. Sixth Page, £1 5s. Eighth Page, 18s.

Rates for Wrapper and pages preceding and following Literary matter, also pages facing inside of Wrapper. The above Scale of Charges will be subject to a discount of 10 per cent, upon 7 and 20 per cent, upon 13 insertions, prompt quarterly payments.

An order for 13 insertions means 12 in the CHEMIST AND DRUGGIST and 1 in the CHEMISTS' AND DRUGGISTS' DIARY. The same rule also applies to an order for 7 insertions, or to an order for insertion until countermanded, if such order is in force in October of any year.

Advertisements intended for insertion in the current Month must be sent to the PUBLISHER OF THE CHEMIST AND DRUGGIST on or before the 12th, except Employers' and Assistants' Advertisements, which can be received up to 10 A.M. on the morning previous to publication.

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SMITH, J. T., & CO.	Norwegian Cod Liver Oil	70
SMITH, STANISTREET & CO. (CALCUTTA)	Patent Medicine Dealers	58
SNOOK, G. F., & SON	Corn and Bunion Plasters	30
SOUTHALL BROS. & BARCLAY	Al Cod Liver Oil	50
SOUTH LONDON SCHOOL OF PHARMACY	W. Baxter, Sec.	1
SPRATT	Dog Cakes, Poultry Meal, &c.	90
STEDMAN	Teething Powders	TEXT, 44
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SUSSEX DRUG CO.	Cobden's Quinine and Phosphorus Pills	5
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SYMES & CO.	Foreign Chemists	5
SYMINGTON & CO.	Coffee and Milk—Essence of Coffee	17, 8
SWIFT & SON	Opticians	1

(T)

TABULA ROSA DENTIFRICE		1
TAYLOR, T. & F. J.	Aërated Waters	1
TAYLOR, W. G.	Lint	1
THOMPSON & CAPPER	Homoeopathic Chemists	1
THORLEY'S FOOD FOR CATTLE		1
TINPLATE DECORATING CO.		1
TOMLINSON, R.	Shop Fitter and Valuer	1
TOOGOOD, W.	Chest Protectors	1
TOOMEY, M. E.	Surgeon Dentist	1
TOWLE, A. P.	Chlorodyne	1
TREBLE, G., & SON	Shop Fittings, &c.	1
TRIPPIER, T.	Transfer Agent and Valuer	1
TULLY, J.	Teacher of Chemistry	1
TWENLOW, R.	Medicated Lozenges—Chlorodyne	1
TYLER, HAYWARD & CO.	Soda Water Machinery	1
TYRER	Feeding Bottles	TEXT, 4

(V)

VALLET, L.	Ball Bottle Stoppers	1
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VICTORIA OFNER MINERAL BITTER WATER CO.		1

(W)

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WELLS & CO.	Pure Vegetable Charcoal	1
WEST, THOMAS	Okell's Mona Bouquet	1
WESTMINSTER COLLEGE OF CHEMISTRY AND PHARMACY		1
WHIFFEN, T.	Quinine Sulphate, &c.	1
WHITAKER & GROSSMITH	Perfumery—Notice of Removal	1
WILLIAMS & PROCTOR	Pis Compo "Seed Dressing"	1
WOOD & DREWRY	Surgical Belt Manufacturers	1
WOODS, W.	Arca Nut Tooth Paste, &c.	1
WOOLLEY, SONS & CO.	Pure Crushed Linseed	1
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(Y)

YATES, W. S.	Chemists' Shop Fitter	1
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(Z)

ZIMMERMANN, A. & M.	Agents for the Chemische Fabrik auf Actien, Berlin—Schering's Celluloidine, &c.	1
ZOEDONE CO.		1

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CHEST
PROTECTORS

Fig. 1.

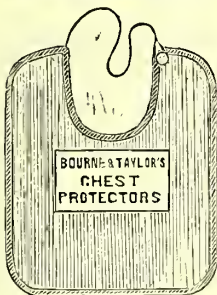


Fig. 2.

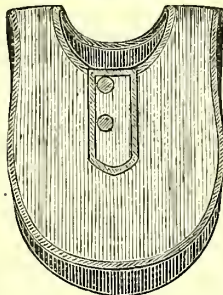


Fig. 3.

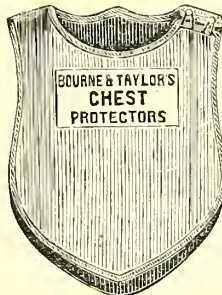


Fig. 4.

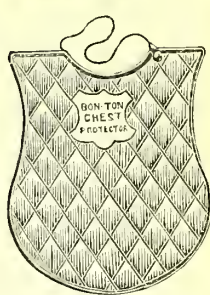
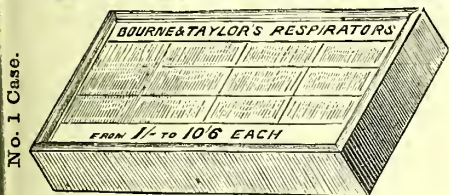


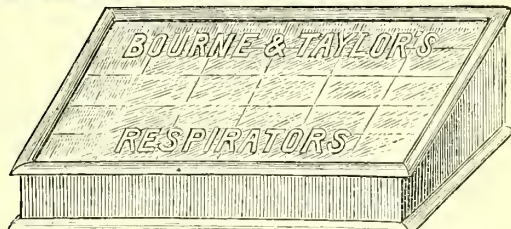
Fig. 5.

(B. & T.'s Chest Protectors are neatly put-up in Glass-top Boxes, containing One Dozen.)

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No. 2 Case.

(As recommended by Professor TYNDALL.)									
Nos. 1 and 3	Contain 1 Metallic Plate.	Nos. 7, 8, 9, 12, 13, 14 and 15	Contain 3 Metallic Plates.
" 4, 10, 11, 16, 17, 18, 21, 22, 23, 24, & 25	" 2 " Plates.	" 19 and 20.	"	"	"	"	"	"	" 6 " "

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(BOURNE, JOHNSON & LATIMER.)



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ESTABLISHED A.D. 1833.



FIRST PRIZE (SILVER MEDAL) FOR TRUSSES AWARDED BY THE
WORSHIPFUL COMPANY OF CUTLERS OF THE CITY OF LONDON, MAY 1877

FIG. 1.

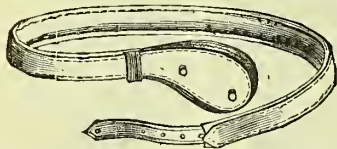


FIG. 4.

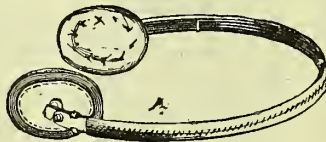
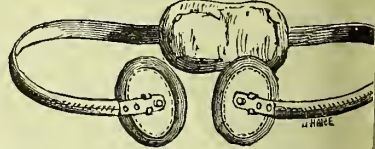


FIG. 5.



TRUSSES.

Circular Trusses, single, as Fig. 1, hasil and chamois or basil and moleskin	per doz.	£1 1 0
Circular Trusses, double, hasil and chamois or hasil and moleskin	per doz.	1 14 0
" " " with extending hacks	"	2 14 0
Salmon & Ody's Expired Patent, single, Fig. 4	"	1 10 0
" " " double, Fig. 5	"	3 0 0
Moc-Main Lever, single	each	0 8 0
" " " double	"	0 13 6
Coles's Expired Patent, single	"	0 5 6
" " " double	"	0 10 6
Scrotal Trusses, basil and chamois or moleskin, single	"	0 4 0
" " " double	"	0 7 0

SUSPENSORY BANDAGES.

No. 1. Cotton Bags and tape under-straps	per doz.	0 8 0
2. Cotton Oxonian, with drawing-strings	"	0 10 0
3. Silk Bags and tape under-straps	"	1 1 0
4. Silk Oxonian, with drawing-strings	"	0 18 0
5. " " Bags bound with elastic	"	1 4 0

SUSPENSORY BANDAGES—continued.

No. 6. Silk Oxonian, superior quality, hands of huff jean, with drawing-strings	per doz.	£1
7. Silk Bags, to hutton on, with tape under-straps	"	1
8. " " " under-straps to button	"	1

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Manufactured expressly for Export, and warranted to stand a hot climate better than any others in the Market.

	Silk.	Super. Silk.	Cotton.	St. Co.
Stockings	£ s. d.	£ s. d.	£ s. d.	£
Knee-caps	0 9 0	0 13 6	0 5 3	0
Calf-pieces	0 6 0	0 9 6	0 3 6	0
Socks	0 6 8	0 9 0	0 4 0	0
Wristbands	0 5 0	0 7 6	0 3 3	0
Knee Stockings	0 2 0	—	0 1 6	0
Belts, to draw on	0 15 0	1 3 0	0 8 9	0
	0 15 0	1 1 0	—	0

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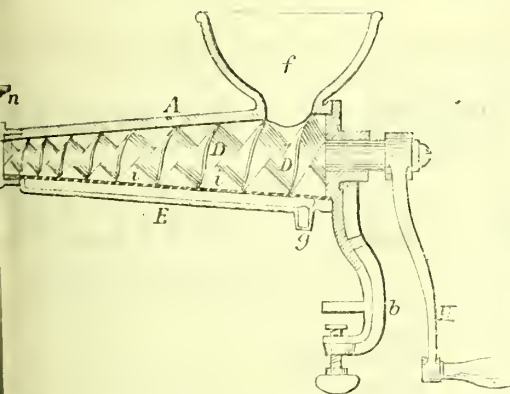
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Simplest, Best, and Cheapest in the Market.
Specially adapted for pressing coarse and fibrous drugs.

Professor Remington, in *Am. Journal of Pharmacy*, says:—
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from percolation residues, and it is particularly useful
for pressing arnica flowers, hops, &c., and those bulky absorbent drugs
succeed so well in wasting alcohol, and in expressing
the mass, in preparing aqueous extract of opium. From its
construction, the refuse is delivered uniformly dry, and
the objection to most of the presses which leave the
cake comparatively dry on the surface, but with vary-
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(Trade Mark Registered).

THE ORIGINAL.

The Lancet says—"This is a really valuable preparation."

THE "KEPLER" MALT EXTRACT (IMPROVED).

"An agreeable substitute for Cod Liver Oil."—Ziemssen.

THE "KEPLER" COD LIVER OIL WITH MALT EXTRACT.

"The taste of the oil is agreeably disguised. Its nutritive powers are
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WYETH'S DIALYSED IRON.

A pure Neutral Solution of Peroxide of Iron in the Colloid
Form; each fluid oz. contains 27.68 grs.

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CHLORATE OF POTASH, 5 grs.

CHLORATE OF POTASH AND BORAX,

5 grs. (2½ grs. of each).

POTASS. BI-CARB., 5 grs.

SODA BI-CARB., 5 grs.

AMMONIUM CHLORIDE, 3, 5, & 10 grs.

These tablets are a great convenience in filling medicine chests for
travellers.

"Excellent and reliable specimens of a distinct improvement in phar-
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POROUS PLASTERS

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Orders for Three Gross or more Plasters we offer to print the Chemist's Name on each, if desired.

BURROUGHS, WELLCOME & CO.,

Successors to S. M. Burroughs & Co.,

IMPORTERS, EXPORTERS,

AND

MANUFACTURING CHEMISTS,

SNOW HILL, LONDON.

WINTER SEASON, 1880-81.

It is hardly necessary to point out to Pharmacists the advantages which the "A 1" COD LIVER OIL possesses for winter sale. We may, however, say that, year by year, we endeavour to improve quality. Last year the "A 1" Oil stood the test of a very severe winter, and we confidently offer it to Trade this season, feeling assured that its reputation will continue to grow, as has been the case winter by winter. The new Label ("En Norsk Fisker"), in Colours, is now used for Winchester Quarts. We supply the "En Norsk Fisker" Show Card.

THE PRICE OF THE "A 1" OIL IS 9/ PER GALLON, IN WINCHESTER QUARTS.

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In Jars, 6d., 1s., and 2s. each.

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See "CHEMIST AND DRUGGIST," December 15th, 1874.

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AND

SALINE ESSENCE of PEPSINE.

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This (the ORIGINAL) preparation was introduced by Messrs. SAVORY & MOORE in 1867, and advertised in THE LANCET in an attempt was made to imitate it until 1874, when notices of another preparation appeared in several Medical Journals.

The advantage of this (the ORIGINAL) preparation over the imitations of it consists in the ability to administer a sufficient Phosphorus without the admixture of a LARGE quantity of Cod liver Oil. Dose, 1 to 2 drachms. Supplied in Bulk or Small bottles.

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Solutions of the Hypophosphites of Iron (Ferrous Salt), Lime, Magnesia, and Soda, obtained without the aid of sugar or strong acids, which have been used with marked success at the above-named Hospital as Tonic, Antacid, and Stomachic remedies in the treatment of the Diseases of Children, and free from the objectionable characteristics of the saccharine "Chemical Food" of uncertain composition of "Steel Wines."—Vide *British Medical Journal*, March 27th, 1880.

Dose—of the Liquor, minims 15 to 60; of the Vinum, 1 drachm; to be diluted.

The BEST FOOD for INFANTS. { USED IN THE ROYAL NURSERY
The Most Perfect Substitute for a Healthy Mother's Milk. { ONLY FOOD specially prepared FOR INFANTS.

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General Post Office.

An index to the advertisements, and the terms for insertion, will be found
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PUBLISHER'S NOTICES.

THE CHEMISTS' AND DRUGGISTS' DIARY FOR 1881 is now
in the course of preparation, and must be closed for press before
the end of this month, in order that foreign subscribers may
be fully supplied. Advertisers are therefore requested to
send their orders without delay.

EXTRA COPIES of this current issue of THE CHEMIST
AND DRUGGIST will be distributed by an eminent firm
among all the probable buyers of drugs in the chief cities
of London, and in Shanghai and Hong-Kong.



At the Pharmaceutical Council on the 6th inst. Mr.
Halse proposed the abandonment of the School of Phar-
macy by the Pharmaceutical Society, on the ground that
students should not be educated and examined by the same
body. The motion received very little support, and was
withdrawn after a long discussion.

On the same occasion Mr. Robbins proposed that in the
distribution of the Benevolent Fund priority should be given

to the claims of members of the Society and subscribers to
the Fund over outsiders. A more liberal policy, however,
prevailed, and Mr. Robbins's motion was defeated.

The Chemists and Druggists' Trade Association have made
a preliminary effort towards obtaining from the Legislature
the same exemption from jury service for all registered
chemists and druggists as is now granted to pharmaceutical
chemists.

Dr. Langdon Down, himself an early student of the school,
delivered the introductory address to the pharmaceutical
students at Bloomsbury Square on the 6th inst. He did not
limit himself to educational subjects, but took the oppor-
tunity of ventilating his views on proprietary medicines,
counter-prescribing, and co-operative stores.

Introductory addresses were delivered at most of the
medical schools, a few of which we summarise. Charing
Cross was added this year to the other three Metropolitan
schools of medicine—Bartholomew's, Guy's, and the Mid-
dlesex—at which no introductory address was delivered.

The annual meeting of the Pharmaceutical Society of
Ireland was held on October 4 in Dublin. The new members
of Council were re-elected, Professor Tichborne, the President,
receiving 59 out of 60 votes. He was re-elected to the
presidency. Some discussion took place in reference to the
defective reports of the Council proceedings which had
been published hitherto, and a complaint was made of the
non-publication of those proceedings in this journal.

Manufacturers of aerated waters will do well to study care-
fully the series of elaborate experiments, which are re-
corded on pages 436-39, by Dr. Inglis Clark. The aim is to
show the most economical method of arriving at the best
result in the aëration of the waters. Dr. Clark comes to
conclusions somewhat similar to those of Mr. Briggs, which
we published in June last, but he gets his results by a
different method, and he touches upon many correlative
matters.

In an article entitled "Summer Saline," on page 430, a
contributor has strung together stray reminiscences from
the counter, which will perhaps recall in many minds
corresponding experiences.

Our Smyrna Correspondent reports the opium market
there is still firm and on the rise, but still awaiting the
long-looked-for impetus. For Chio turpentine he says
holders still demand extreme rates.

On page 431 Mr. Joseph Ince records reminiscences of the
early days of the *Pharmaceutical Journal*, under Mr. Jacob
Bell's guidance and proprietorship.

Practical suggestions respecting the preparation of writing
inks, a manufacture which is open to every chemist, will be
found on page 439.

An article on the manufacture of soap in small quantities,
continuing one which we published in August, appears on
page 441. The manufacture of soft or potash soap is here
especially described, and some useful suggestions for shaving
paste may also be noted.

A sketch of the Japanese druggist will also be found on
page 441.

An International Food Exhibition is now open at the
Agricultural Hall, and appears to promise success. Islington
seems to be a more favourable air for these special exhibi-
tions than Kensington was. An exhibition of aerated water
machinery is to be held on the 19th, 20th, and 21st of this
month at the Holborn Town Hall, Gray's Inn Road.

Pharmaceuticalia.

THE BLOOMSBURY SCHOOL OF PHARMACY.

WHEN the sun shines brightly on the waters, and the ship dances merrily before the wind, how contented are the passengers, and how ready are the merest lookers-on to wish the harque good speed! But let the smallest cloud arise, and the horizon threaten, and the faint-hearted begin to express their fears; while even the more courageous hope that the captain is a steady man. Such is not the hour for an officer to tremble for the safety of the vessel; still less for him to propose to meet the difficulty by abandoning it to its fate. British pharmacy has had its triumphs and its trials. It is not a venerable institution like the time-honoured establishments on the Continent, and it has had to fight its way against apathy and opposition. Of late it has suffered in a most vulnerable point, that of trade interest, and the consequences have been instantaneous. There has been a sudden panic—men's hearts failing them for fear; and many there are who are tempted by a passing gust of disappointment to yield to an unwarrantable spirit of dejection. This condition of uneasiness is quite natural: there is cause for anxiety, and still more for renewed activity, but it is hardly the appropriate moment for a member of Council to precipitate a crisis by pitching overboard the anchor when the goods run a chance of shipwreck.

On Wednesday morning, October 6, in the year (mark well the date) 1880, it was proposed to abandon the School of Pharmacy—it was moved not at South Kennington, nor yet at Westminster, nor even in the neighbourhood of the Euston Road, but at the Council then and there sitting at Bloomsbury Square, that the Pharmaceutical Society, having other things to do, and doing them so nicely, should deem “it inexpedient to be directly engaged by means of a school of pharmacy in giving instruction to pharmaceutical students.” One learns to be surprised at nothing, and that is the condition of mind at which we have ourselves arrived. Once let slip the power of directing the education of our youth and the Council will become a shadow, and the Society may close its doors.

Neither the weather, which was disastrous, nor the distress signals so freely exhibited in the morning, seemed to have influenced the character of the evening meeting, which formed the opening of the thirty-ninth session of the School. There was a fair attendance, and the audience was disposed to be enthusiastic.

The gentleman who presided over the pigeon-hole for the reception of hats and umbrellas was sadly perplexed to find sufficient accommodation, nor was he always successful. Probably he had received a message from above that the students were all to be drifted to King's College; but the notice was premature. The President, who is geographically inclined, was detained at St. Petersburg, Mr. Schacht, therefore, occupied the chair, and acquitted himself of his duties in his accustomed graceful manner. Unquestionably a large amount of business is crowded into a single night at this special anniversary; and while it is difficult to suggest a remedy, still the pressure itself is obvious. On the one hand the Professors are anxious to do justice to the merits of their class, and to the particular candidates who may have gained distinction; on the other it is hard upon the lecturer who has to deliver the address, that he should rise at a late hour in the evening, and direct his remarks to those who already show symptoms of fatigue. Professor Redwood, as was his right, came first in order, and, contrary to his usage, made a speech. It was a good one, and he had reason

to feel happy, for the address was about to be delivered by one of his old pupils and former assistants. One “who had risen from the class, and pursued a most prosperous and successful career, and whose experience offered a bright example of what could be done by steady perseverance and fixed determination to attain to the object of one's ambition.” He congratulated himself and his pupil that after the lapse of years they should both meet again, and that the latter should be able to see that they were still pursuing the same course of sound pharmaceutical education which was founded by those who might be called the fathers of British Pharmacy. Not yet had they been able to discover any royal road to knowledge, and they were content to adhere to the same system with which they had started—thoroughness of instruction.

Professor Bentley next rose and said—we all know precisely what. He had had intelligent and devoted students for the past 38 years—he had spoken on former occasions of their regularity, punctuality, and progress—but never at any other period had he more satisfaction in making his report than on the present occasion. He had also been in the habit of getting up at four o'clock in the morning. The students were as cordial as ever in their reception of the genial Professor, and we hope that for years to come he may have to pronounce the same little oration.

Professor Attfield, fresh from his recognition at Swansea in turn bore testimony to the assiduity and gentlemanly behaviour of the students. He claimed that the Council provided efficient teaching, and that those who had attended the several courses had been deliberately and well trained.

We printed the list of prizemen in our August number.

When the ceremony of presenting the prizes had been completed, Dr. J. Langdon Down proceeded to deliver the address. It was admirable both in detail and as a whole, the peroration was singularly effective, and the form student, but now most successful practitioner, justified and exceeded the high estimate which had been formed of his abilities.

The Pharmaceutical Council.

TUESDAY, OCTOBER 6.

PRESENT:—Mr. Schacht, Vice-President, in the chair; Sandford, vice-chairman; Messrs. Andrews, Atkins, Boddie, Butt, Churchill, Frazer, Gostling, Hampson, Hills, MacRadley, Richardson, Robbins, Savage, Squire, Symonds, Williams, Woolley.

The minutes of the last meeting were read and adopted.

PROFESSOR REDWOOD'S NEW ARRANGEMENTS.

The VICE-PRESIDENT said that before they passed to other business there was one point referred to in the minutes which subject a letter had been received from Professor Redwood, which was read. The writer stated that at the August meeting of the Council he had been authorised to advertise certain modifications in the scheme of his course of lectures. The first part of the proposed alteration, which was to connect the lecture with the laboratory teaching, had been already carried out by the appointment of Dr. Sandford as Demonstrator at his lectures. He (Professor Redwood) defrayed the expense connected with that appointment, and now, in order to carry out the second part of the proposal, which was to supply instruction in practical dispensing, he proposed to pay Mr. Dimmock to give instruction one hour a week in the reading, translation, and dispensing of prescriptions, but this part of the scheme was yet in abeyance, as certain appliances were required; and Professor Redwood now asked the Council to grant a sum not exceeding 20% to provide the necessary apparatus. Ten students

this class had given in their names to attend the proposed dispensing class at a fee of, say, one guinea for the session.

Mr. SYMES would like to ask whether Professor Redwood was in order in having formed this class. He understood that this appointment of a dispensing teacher was what had been proposed by the Professors some time ago, and had been refused by the Council. When he saw the announcement in the advertisement of the School he was amazed. If he was in error he should be glad to be put in order.

Mr. WILLIAMS understood that the matter was left in the hands of the President to make arrangements with Professor Redwood. The subject came before the Council very late at the August meeting, and it was difficult to say exactly what was agreed to.

Mr. HAMPSON said it was an unsatisfactory feature in this case that an application had been made to a Special Committee for a certain purpose, and having been refused, the object was now intended to be attained by tortuous means.

Mr. ROBBINS said the Committee had agreed to the proposal of the Professors, but it had been rejected by the Council.

Mr. CHURCHILL regarded the action now taken as directly opposed to the intention of the Council. It was understood that no extra fees were to be charged to students. Now a fee of a guinea was proposed to teach dispensing, and he thought the one hour per week would be quite inadequate for such a purpose.

Mr. MACKAY having asked that the advertisement of the school should be read, which was done, said it was certainly understood that no extra fee was to be charged.

Mr. SYMES said that in the discussion on the Professors' original proposal he had been neutral, but that the proposal having been negatived, his objection was that the object could now be accomplished by anything like a side-wind.

Mr. SCHACHT said that the request of the Professor was that he should be allowed to charge one guinea for a course of instruction which was not a part of the course. It seemed little unreasonable that it should be expected that this extra course should be given for no extra payment. At any rate it was unreasonable to put such an extra duty on the Professor. The charge proposed would be quite optional for the students. It was a very different thing to charging for the extra assistance which Dr. Redwood had proposed in the original scheme.

Mr. ANDREWS said it was most unfortunate that they did not have the whole scheme before them at first.

Mr. SQUIRE thought the proposed alteration was desirable, but it was certainly understood that no extra charge was to be incurred.

Mr. ROBBINS said the Council had agreed that the settlement of the details should be left to the President to arrange with Professor Redwood. No doubt he had done so, and had been here the matter could easily have been explained.

Mr. MACKAY understood that two changes had been introduced into the programme as submitted in August. First, that a charge of a guinea was to be made to the students, and secondly, that the Society was to be called upon to pay anything like 20% for dispensing appliances. He confessed he was disappointed to find that the Professor should not come forward to ask this. He had understood that the expense was to be borne by him, his profit to depend on the increase of students resulting.

Mr. SANDFORD had not understood that Professor Redwood was to pay for the necessary apparatus. He was sorry to hear Dr. Symes refer to this scheme as having been introduced by a side-wind. He believed the whole scheme had been placed before the Council, and he perfectly remembered another name besides that of Dr. Senier had been mentioned. This would be found if they could refer to Dr. Redwood's first letter. He quite agreed with Dr. Symes that it was inconsistent for the Council to agree in August to what they had refused in June. But he did not think it unreasonable that students should be expected to pay an extra fee for a course of instruction which was entirely extra. For his own part he thought the lessons in dispensing which had been given some years ago by Mr. Wood proved very useful.

Mr. WILLIAMS having read the minutes, said no doubt the Council had rescinded its original resolution. There had been no other meeting of the Council before which the details of the programme could be brought since the August

meeting, and before the opening of the session, and that was why the President had been asked to settle them with Professor Redwood. He himself had opposed the appointment of a dispensing tutor, but it did not seem that the announcement went beyond what the Council had sanctioned.

The discussion continued at some length until Mr. SCHACHT moved that the subject of Professor Redwood's letter should be referred to the Library, Museum, and Laboratory Committee, with the instruction that if they approved the proposal they should have power to settle the details. This was seconded by Mr. RICHARDSON, who remarked that if the original scheme could be improved he did not see why this should not be done.

Mr. GOSTLING moved as an amendment that the subject should be referred to the said Committee, but instead of giving them power to arrange the details, instructing them to report to the Council. This amendment was seconded by Mr. SQUIRE.

Mr. SCHACHT said that would involve the delay of a month and a half and would ruin the session.

Mr. HAMPSON remarked that it was desirable to act for the best under present circumstances, and he therefore supported Mr. Schacht's proposal.

Mr. ATKINS, though he regretted the proposal of an extra charge, considered that extreme measures had better be avoided, and agreed with Mr. Hampson.

Mr. WOOLLEY said that the strongest reason in favour of carrying out the proposal was that there were ten students anxious to avail themselves of the opportunity.

Mr. FRAZER intended to support Mr. Gostling's amendment. He objected to give any committee power to do what the Council had strenuously opposed. If adopted the ten students could afterwards have two lessons a week, instead of one, to make up for lost time.

Mr. SQUIRE asked if these students had already paid their fee, because if so it appeared that Professor Redwood had made the arrangements and asked the sanction of the Council afterwards. It was pointed out that as regards this part of Professor Redwood's letter he had only proposed it.

Mr. ANDREWS protested against a discussion on an important alteration like this having been brought forward at the far end of the August meeting, when many of the members had left, and without notice.

Mr. SCHACHT said that in Dr. Richardson's model house all the apartments were to be next to the roof. So Mr. Andrews' requirements would necessitate every discussion occurring near the top of the list.

The voting at length took place, when there appeared, for Mr. Gostling's amendment, 8; against, 10. On Mr. Schacht's motion being put, 12 voted in favour of it, and none against it.

Mr. CHURCHILL then proposed a rider to the motion, to the effect that not less than three hours' instruction in dispensing per week should be given, and that no charge should be made. Mr. Churchill thought one hour's instruction per week ridiculous—inadequate to teach dispensing. It was generally considered, however, that the points of Mr. Churchill's rider were exactly what were referred to the Committee, and after a while he withdrew it, but expressed the hope that the Committee would take note of the wish of some of the members of the Council, especially in regard to the charge. Mr. Bottle, however, as a member of the Committee, said he could not receive that as an instruction, and he might say that he should support the charge partly for the reason that students would not appreciate what they got for nothing, and partly also that there would be certain materials used for which a charge ought to be made.

THE ELECTION OF MEMBERS.

Associates, and apprentices then took place. Among the members was one lady, Louisa Stammwitz. The names of the following persons were placed on the register, they having satisfied the requirements of the Pharmacy Act:—William Fox, Westerham, Kent; Robert Stephen, 8 Orchard Place, Old Aberdeen; John Williams Willcox, Madeley, Salop.

THE CHEMISTS' BALL.

A letter was read from Mr. Arthur Savory asking for the favour of the use of one of the Society's rooms for a meet-

ing to make arrangements respecting the Chemists' Ball for 1881. Granted.

MR. JOHN MOSS

Had written tendering his resignation as a member of the Board of Examiners, which was necessitated in consequence of his removal from London and his partial separation from pharmaceutical pursuits. He expressed his regret at the severance of the very pleasant associations he had enjoyed as an examiner.

On the motion of Dr. SYMES, Mr. Moss's resignation was accepted, and a resolution was passed expressing the Council's regret at the loss of his valuable services. Mr. Atkins thought that the latter part of this resolution should be expressed in an emphatic manner.

On the suggestion of Mr. WILLIAMS it was resolved not to fill up the vacancy thus occasioned until the Board was proposed for the new year. It would be impossible to appoint another examiner, and have the appointment ratified by the Privy Council, previous to the last examination of this year.

FINANCE.

From the report of the Finance Committee it appeared that 500*l.* had to be drawn from deposit and placed to current account, and it was stated that a cheque for 30*l.* 1*s.* 10*d.* had been paid to the solicitors of the London and Provincial Supply Association (Limited), being their taxed costs in the trial in the House of Lords.

Mr. RICHARDSON complained that money was often voted by the Council, and the Finance Committee knew nothing of it until the accounts came before them to be checked. He thought all matters involving expenditure should come first before the Finance Committee, and be recommended by them to the Council. He especially mentioned the vote of 30*l.* to pay for the editor of the journal to go to Swansea.

Mr. SYMES said the Secretary had told them that the expenses of the Society were very heavy. He ventured to say they would not be so heavy if all expenditure came before the Committee. It was a committee's business to go into details.

Mr. SANDFORD said all matters of expense should certainly come before the Finance Committee, but he could not see that the Committee ought to override the Council. The Council was justified in deciding on any expense to be incurred. The bye-law defining the duties of the Finance Committee was read by Mr. Williams, from which it appeared that the Committee had no power to propose expenditure.

Mr. RICHARDSON therefore withdrew his suggestion, but added that the Committee ought to be described as the Audit Committee.

THE GERMAN APOTHEKER VEREIN.

A letter was read from Dr. Paul, describing the cordial reception given to himself and Mr. Passmore at the Breslau meeting of the German Apotheker Verein, and the pleasure with which the announcement of the meeting of the International Pharmaceutical Congress in London next year was received.

The name of Mr. Butt was added to the Library, Museum, and Laboratory Committee.

A letter from the Secretary of the Chemists and Druggists' Association was read. It appears in our report of the proceedings of the Association.

THE SCHOOL OF PHARMACY.

Mr. HAMPSON moved the following resolution, of which notice had been given:—

That the Pharmaceutical Society, among other duties and responsibilities, being authorised by Act of Parliament to examine, certify, and register all persons entitled to practise pharmacy in Great Britain, it is inexpedient to be directly engaged, by means of a School of Pharmacy, in giving instruction to pharmaceutical students.

He said he felt considerable responsibility in moving this resolution, but he should feel it a greater responsibility to remain quiescent, regarding the proposal desirable, as he did. He could quite understand that old students of the school, such as the Chairman, should be inclined to regard

such a motion as an outrage on their old traditions and an ungenerous attack on their *Alma mater*. It was quite likely that, for reasons of this kind, his proposition might not be received with favour in some quarters, but he asked them to put aside such considerations, and look upon the resolution as one that might be fairly discussed. In the first place he would refer the Council to the actual duties which were imposed upon them by Act of Parliament. The Charter defined those duties as consisting of the protection of chemists and druggists, the advancement of chemistry and pharmacy, and the promotion of a uniform system of education of those who should carry on such business. He would refer later on to the latter part of that definition. They were required, besides, to examine candidates, to grant certificates, and to prepare an annual register. They were expected to exercise their powers for the prevention of illegal trading, they had to take charge of an important library, museum, and journal, and they had to arrange for an annual election of Council. The management of the finances of the Society and the administration of the Benevolent Fund also formed part of their duty. He gave a summary of the Committee and general work of that and the previous day as a fair sample of their occupations, which, he argued, were quite sufficient to employ their energies, and rendered it inexpedient that they should add to such onerous duties the charge of a school of pharmacy. The present position of pharmaceutical affairs was gloomy and unsatisfactory, and all their energies were needed for preparing and carrying out a new Pharmacy Act. Going back to the early days of the Society, he urged that it was then their imperative duty to provide means of education in chemistry and pharmacy, as no schools for the purpose at that time existed; but such facilities were now immensely multiplied all around them. There was a good reason for them to undertake the work in those days, as they had not attained a recognised position, and he considered that the Society had done, in this respect, a great and noble work. But they were no longer a voluntary body, and he argued that they were not justified in holding examinations in the same house as that in which they provided education. He did not cast any aspersions on the examiners, but he maintained that there was a possible danger of advantage to such as were educated in that house. They knew the rooms, and the officers, and there might be the chance of favouritism. The school at which the student had been instructed might often leak out. Having referred to such bodies as the College of Surgeons and Physicians, and the new regulations of Owens College, in support of his argument, he went on to discuss the cost of the school to the Society, which, he said, last year amounted to 728*l.*, or an average of 6*l.* 16*s.* for each pupil and he questioned whether they were right in spending so much out of the subscriptions of members on such a purpose. He maintained that they could carry out the provisions of the Charter as well, and better, by founding and endowing chairs in other colleges, and by other means, than by engaging themselves in teaching. They had no control over their school as it was, and they had no time to spare to give the proper attention to it. It was on the ground mainly that their other duties occupied them so fully that he asked them to support his resolution.

Mr. MACKAY said Mr. Hampson had not fixed the time when the school was to be abandoned. Was it to be at once in two or three years, or when?

Mr. HAMPSON said that would be for the Council to decide.

Mr. ANDREWS seconded the motion, but reserved his observations, if he should wish to make any.

Mr. ATKINS always listened with the utmost attention and respect to whatever fell from his friend Mr. Hampson, but he was reluctantly compelled to differ from him on this occasion. He did not think the time for disestablishing and disendowing the school had come yet, if it ever were to come. Mr. Hampson had spoken of the medical body keeping distinct the functions of education and examination. He spoke with diffidence, but he believed that the tendency at the present day was generally more and more to associate those functions in the same bodies, of course with proper precautions against collusion. This always had been the case at Oxford and Cambridge, and even London University, which had been founded as a purely examining

body, was moving in that direction by affiliating certain colleges with itself. The School of Pharmacy had done good work during the past 40 years, and its usefulness ought not to be, and he believed was not, yet exhausted. He did not believe any single case of collusion between the examiner and the school had ever occurred, and if it was the case, as they had often heard—he did not say it was true—that some of the education given outside was not fully up to the mark, it was all the more reason why they should aim to supply the genuine product within those walls. He could see no reason, either on the ground of principle or expediency, why they should now abandon their school, but he thought they should unite their efforts to infuse new life into its management, and to increase its efficiency.

Mr. SYMES, although he generally followed Mr. Hampson, thought that if his suggestions pointed in the right direction, the time had hardly yet come for such a change as he now proposed. As he read the Charter he thought education was one of their most important duties. He found that the Society was incorporated for the purpose of advancing chemistry and pharmacy, and promoting an uniform system of education of those who should practise the same. He took it that it was by means of education that they could best promote both of these objects, and his mind at the present moment went rather in the direction of extending the Society's movements in this direction, than of limiting them, by affiliating to itself outside and provincial schools, or by offering prizes to such schools as had a certain class of teachers and pupils. He believed that if they were to pay teachers in provincial schools of pharmacy by results instead of making grants, as they did at present, there would be found plenty of teachers, and they would do a great deal of good. But certainly, until they were satisfied that a more thorough pharmaceutical education was given in other schools, he could not agree that it would be desirable to give up their own. It was true that the Colleges of Surgeons and Physicians did not give any education, but except that they fulfilled the duties of granting licences to practise, he looked upon them as somewhat useless bodies.

Mr. GOSTLING, though having considerable sympathy with Mr. Hampson's motion, felt that it was rather their duty to do all they could to improve their school than to close it. He thought they ought to do more than they had done. He could not forget what the school had accomplished in the past, and he urged that they should do all they could now to promote its usefulness.

Mr. SAVAGE also hoped that the new arrangements which had been made would bring about an improvement in the school, and he thought this, at least, was not the time to think of giving it up.

Mr. MACKAY regarded the motion as singularly premature, but he was not so disposed to discuss the subject in all its bearings as he should have been if the motion had the slightest chance of passing. He rose chiefly to press Mr. Hampson to withdraw his motion, and to be satisfied with having drawn attention to the subject.

Mr. WILLIAMS, as a past president, desired to testify to the perfect impartiality of the examiners, which he thought Mr. Hampson had, at least by implication, called in question.

Mr. BOTTLE supported the appeal of Mr. Mackay that Mr. Hampson would withdraw his motion. He had never heard his friend, Mr. Hampson, so weak, and if he wanted any additional reason for voting against him it would be found in the weakness of his arguments in support of his proposal.

Mr. MACKAY wished to add that he had been present at every meeting of the Examining Board in Scotland, and could testify to the unanimity and impartiality with which they had discharged their duties.

Mr. ANDREWS concurred in a great deal of what had been expressed by Mr. Hampson, and thought that, if the time had not arrived for separating the school altogether from the Society, it was certainly time, seeing that it was dwindling year by year, that some efforts should be made to ensure its being carried on better than had been the case. This school was advertised as the school of the Pharmaceutical Society, and he considered that the Council ought to take a more active part in its management. For his part he would like to see the school entrusted to one

head, who should have the sole responsibility for it, and should obtain no other emoluments than what he obtained through the success of this school. He believed that, with some such arrangement, the school might yet become very successful.

Mr. SANDFORD testified to the perfect fairness and the utter absence of favouritism in the conduct of the examinations whenever he had witnessed them. He was sorry that such a motion should be made just at the opening of the session. Mr. Andrews had spoken of the school not prospering. It was not likely to go on prosperously if they hung such a weight about its neck. They might as well drown a man and expect him to go about pleasantly.

Mr. RICHARDSON said the subject had been previously well threshed out, the curriculum revised, and a new scheme drawn up by the Professors, and it was most painful that it should be re-opened now. He hoped and believed the school would again be successful.

Messrs. FRAZER, SQUIRE, and ROBBINS also opposed the motion.

Mr. SCHACHT urged upon Mr. Hampson the advisability of withdrawing his motion. He had appealed to the charter, and it had been shown that the words of the charter were strongly in opposition to his motion. He had appealed to the question of cost, but the cost now incurred was small, ridiculously small in comparison with what it would be to found and endow an outside college of pharmacy. He had appealed to the practice of other bodies, but it had been shown that the custom of every university was against him. He had appealed to the altered condition of affairs outside, but he maintained that the teaching in their school was still the best, and was the model which all the rest had followed. He had appealed to the fact of the great pressure on the time of the Council, but the Council did continue to do its duties, whatever they were, fairly well; and, seeing that every gentleman who had spoken, with the single exception of the seconder of the proposal, was decidedly unfavourable to the motion, he hoped Mr. Hampson would not press it. No doubt much might be said on the abstract question of examination and education by the same body, but he thought that the amount of good which the institution had accomplished, and Mr. Hampson had himself been obliged to confess—no, he would rather say, had generously admitted—that a noble work had been accomplished, far outbalanced the very small danger of evil. He wished also to bear his testimony to the punctilious care and fairness with which the examinations had been conducted.

Mr. HAMPSON said he would withdraw his motion, but though he had received so little encouragement he believed they would be compelled in time to follow such a policy. He had not made any charges against the examiners and he wished to take the opportunity of joining in the general expression of opinion in regard to the fairness with which the examinations generally were conducted. He had only spoken of the chance of favouritism. But his main reason for bringing forward the motion was that their hands were so full of work which they were required to do by Act of Parliament that they could not pay the necessary attention to the school, and if they were to retain the school it should be the model for all others.

THE BENEVOLENT FUND.

Mr. ROBBINS, in accordance with notice, moved

That it be an instruction to the Benevolent Fund Committee in the administration of the fund, that members and associates of the Pharmaceutical Society, widows and orphans of the same, and also subscribers to the fund, on their application for aid, should be considered to have a prior claim over those who have never been connected with the Society, nor have contributed to the Benevolent Fund.

The origin of his motion, he said, was that he had asked in one case which came before the Benevolent Fund Committee, whether the applicant was a member of the Society or not, and some of the Committee had considered that they had nothing to do with that consideration. There was a prevailing idea outside that persons not connected with the Society, and who had never subscribed to the fund, had as great a claim on it as members and subscribers. He wished to see that idea removed. The fund had been founded and

maintained chiefly by members and associates, and in his opinion to make no distinction between applicants was a great injustice. If an old member who had subscribed in his prosperous days were overtaken by adversity, ought he to receive no more consideration than one whose existence had never been known to the Society? At the time the power was obtained to extend the benefit of the fund to the whole trade, it was never contemplated that more than half the amount would be given to the new recipients, as was the case. The evil was a growing one and outsiders would soon take three-fourths of the charity. It was thought that the whole trade would have subscribed in the same proportion as the members, if the fund were open to all, but it had been found that the non-members did not subscribe in anything like the same proportion. In fact their contributions were so small that they might practically be ignored. It was a most suicidal policy to take care that their members and associates should have no advantage over those who persistently kept aloof from them. He would like to see a rule that annuities should be increased in value to those to whom they might be granted, in proportion to the amount which such persons might have subscribed in their more prosperous days. As a rule these were not the persons who would apply for relief, but he believed such a rule would act as a powerful stimulus to subscriptions.

Mr. RICHARDSON seconded the proposal on the ground that they should be just before they were generous.

Mr. WILLIAMS said Mr. Robbins had somewhat exaggerated his case. He found that the subscriptions for last year were 769*l.* from members and associates of the Society, and 620*l.* from persons not connected with the Society. In the same period sums amounting to 376*l.* had been given to persons connected with the Society, and 322*l.* to outsiders. He was afraid such remarks as those which Mr. Robbins had made might have a bad effect on the subscriptions of persons outside the Society. At the same time he agreed that it was a crying shame that so many persons in the trade should hold aloof from the fund, not even subscribing 2*s.* 6*d.* a year. What did Mr. Robbins mean by a prior claim? As yet they had always been able to give some sort of relief to every deserving case that came before them, and, therefore, he could not see that by not having a prior claim members and associates had suffered. He believed many subscriptions would fall off if the benefits of the fund were restricted.

Mr. SANDFORD thought it would be a pity to pass such an abstract resolution. No doubt many members of the Committee shared Mr. Robbins' views, and they could always act upon them there. There was no reason for any illiberal policy. He was glad that the Society was able to give so much relief to outsiders, and was glad also that their own members were not so much in need of it. Besides, the fund had been thrown open to all the trade by Act of Parliament, and he doubted if they had the power to limit it as proposed.

Mr. SYMES, though sympathising with the evident object of the motion, which was to induce the immense number of non-subscribers in the trade to aid the fund, thought it did not manifest that large-heartedness which everyone gave Mr. Robbins credit for. That many of those who applied for relief had never helped the fund was no doubt true, but was it not because many of them had never been in a position thus to help it?

Mr. FRAZER said that the word "should" in the resolution should be changed to "shall" if the motion were to have any practical effect, and that they would not dare to suggest, as it would too much damage the fund. They ought to remember that the sum given to the members and associates was divided between 3,000 persons, while that given to outsiders had to be divided among 10,000.

Messrs. BOTTLE, RADLEY, HAMPSON, and SQUIRE continued the discussion, all being opposed to the motion.

Mr. ROBBINS replied at some length, repeating his former arguments. In reference to the charge of having exaggerated the case, he mentioned that one month lately 30*l.* was voted to persons connected with the Society, and 80*l.* to persons not associated therewith. From January to the present time the grants to outsiders had been very much in excess of those to members. What he meant by members to have a prior claim was that their cases should be considered first. There were instances where the later applicants

suffered, as it was found often towards the close of a sitting of the Committee that they had voted a great deal of money, and, therefore, they would grant 10*l.* instead of 15*l.*, or 5*l.* instead of 10*l.* Though they might reject this motion to-day, it would force itself prominently upon them later on, for the evil was a growing one, as they would find if they would go back three or four years.

On a division being taken, Mr. Robbins alone voted for the motion, the seconder (Mr. Richardson) having left.

The Chemists and Druggists' Trade Association of Great Britain.

A MEETING of the Law and Parliamentary Committee of this Association was held at the office of the Association, 23 Burlington Chambers, New Street, Birmingham, on September 29, 1880, at 1 P.M.

Mr. Thomas Barclay, President, in the chair.

Present: Messrs. Andrews, Bell, Churchill, Cross, Jervis, Southall, and the Solicitor of the Association.

The minutes of the previous meeting of the committee were read and approved.

The SECRETARY reported having received communications from Messrs. Hampson, Holdsworth, Maltby, Symes, and Willis, regretting their inability to attend.

The PRESENT said the first matter on the agenda was to decide on the course to be adopted for giving effect to the following resolution, passed by the Executive at its last meeting.

That the Law and Parliamentary Committee be directed to address the Government with a view of obtaining such an amendment of the Jury Act as may provide that the exemption from service on juries enjoyed by pharmaceutical chemists should be extended to all registered chemists and druggists.

The SECRETARY said that probably the intention of the Executive would be best met by a memorial to the Home Office. He then read the following draft memorial which he had prepared:—

To the Right Honourable Sir WILLIAM VERNON HARCOURT, M.P., Her Majesty's Principal Secretary of State for Home Affairs.

The Memorial of the Chemists and Druggists' Trade Association of Great Britain.

Respectfully sheweth—

That your memorialists have had under their consideration the question of the liability of registered chemists and druggists to serve on juries.

That the principle of the exemption from jury service of members of certain professions, on account of the nature of the duties appertaining to their professions, is of very ancient date, and has on several occasions been recognised by Parliament.

That since the year 1513 surgeons have been so exempt.

That in the year 1694 this exemption was extended to apothecaries.

That by the Juries Act of 1862 this principle was further extended to certain chemists and druggists, that is to say, to those duly registered as pharmaceutical chemists, these were by that statute included in the lists of persons entitled to exemption from jury service.

That this privilege was granted to pharmaceutical chemists, not because they were pharmaceutical chemists as such, but because it was considered desirable in the public interest that the business of a chemist and druggist should have the close personal supervision of the proprietor, and the exemption was limited to pharmaceutical chemists because they were at that time a registered body, and consequently it was seen that no difficulty would be experienced in limiting the privilege to those only who were legally entitled to it, whereas, had the whole body of chemists and druggists been granted such immunity, it would at that time have been found impossible to limit the exemption to the legitimate members of the trade, as no register of chemists and druggists other than the register of pharmaceutical chemists was then in existence.

That by the Pharmacy Act, 1868, this state of things is amended, and provisions are therein made for the appointment of a registrar, whose duties are laid down in the 13th section of that Act [quoted in the memorial].

Your memorialists, therefore, humbly pray that you will exert your influence on Her Majesty's Government with a view to induce them at the earliest opportunity to extend to all registered chemists and druggists the

privilege of exemption from jury service now enjoyed by a portion only of the body.

Signed on behalf of the Chemists and Druggists'
Trade Association of Great Britain,

Office of the Association, Birmingham,
October, 1880.

PRESIDENT.
VICE-PRESIDENT.
SECRETARY.

It was moved by Mr. ANDREWS, seconded by Mr. JERVIS, and unanimously resolved—

That the draft memorial now read be approved, and that the Secretary be instructed to forward a copy of the same, duly signed, to the Home Office.

The Committee then discussed the expediency of endeavouring to amend the Pharmacy Act, in view of the recent decision of the House of Lords in the case of the Pharmaceutical Society v. The London and Provincial Supply Association, when it was moved by Mr. JERVIS, seconded by Mr. CROSS, and unanimously resolved—

That this Committee heard with profound regret the decision of the House of Lords in the case of the Pharmaceutical Society v. The London and Provincial Supply Association (Limited), but learned with satisfaction that the Pharmaceutical Council had referred the decision of this case to the Sub-committee appointed by them to consider desirable improvements in the Pharmacy Act, and trust that the result of their deliberation will lead to such proposed amendments of the Act as this Association can assist in carrying through Parliament.

The Secretary was instructed to forward a copy of this resolution to the Secretary and Registrar of the Pharmaceutical Society.

The following letter was then read:—

St. Peter's Square, Stockport,
July 29, 1880.

DEAR SIR,—At a special meeting of the Executive of the Stockport Chemists' Association held this morning it was unanimously resolved that the best thanks of this Association be given to those gentlemen who, on behalf of the Chemists and Druggists' Trade Association of Great Britain, so ably defended three of our members in the recent prosecution for the sale of sweet spirits of nitre, and that a copy of such resolution be forwarded forthwith."

I am, dear sir,

Yours truly,

(Signed) WILLIAM BILLING ORTON,
Secretary.

W. F. Haydon, Esq.

Pharmaceutical Society of Ireland.

ANNUAL MEETING, 1880.

THE fifth annual meeting of the Society was held on Oct. 4 at the Royal College of Physicians, Dublin, at 4 o'clock. The following members attended:—Professor Tichborne, President; Messrs. Allen, Batt, Bennett, Brunker, Conyngham, Galway, Goodwin, Grindley, Hayes, Holmes, Hodgson, Park, Payne, Oldham, Simpson, W. F. Wells, jun., J. Wells, and Vance.

The President having appointed Messrs. Simpson, W. F. Wells, and Allen as scrutineers of the voting papers,

Mr. J. WELLS asked the President the meaning of the regulation on page 55 of Calendar as to persons being engaged in compounding and dispensing for at least two years. Whether it necessitated attendance during the whole working day or only any part, and as to the legality of a certificate given to a person who had only served a part of the day.

Mr. HODGSON did not think any gentleman holding the qualification of the Society would be guilty of so gross an act as to give such a certificate.

The PRESIDENT said they could hardly take upon themselves to dictate to any chemist how long each day he should keep his shop open or his assistants working.

After some further conversation the matter dropped.

The Treasurer then laid before the meeting his annual statement audited by Messrs. Hayes and Oldham, showing

a cash balance in favour of the Society of 133*l.* 18*s.* 7*d.*, and funded in 3 per Cent. Stock, 296*l.* 5*s.* 11*d.*

On the motion of Mr. Brunker seconded by Mr. Grindley, the Treasurer's account was passed.

The scrutineers having brought in their report the President announced the result. 61 papers were received, one only was rejected being unsigned. The following was the result:—

Professor Tichborne	..	..	..	..	..	59
John Goodwin	..	..	..	..	..	46
William N. Allen	..	..	..	..	..	46
William Hayes	..	..	..	..	..	44
Stanley Oldham	..	..	..	..	..	43
Alexander Doran	..	..	..	..	..	41
G. H. Grindley	..	..	..	..	..	40
John G. Bilean	..	..	..	..	..	29
William Whittaker, M.D.	..	..	..	..	..	14
W. F. Wells, jun.	..	..	..	..	..	1

The first seven were then declared elected. Mr. W. F. Wells, jun., was not a candidate.

The election of officers was then proceeded with. Charles R. C. Tichborne, LL.D., Ph.D., was re-elected president; Dr. Aquila Smith, vice-president; and Mr. E. M. Hodgson, treasurer. Mr. Hugh J. Fennell was appointed registrar, and Messrs. Hayes and Oldham auditors. The following gentlemen were elected as the Law Committee:—Messrs. Collins, Brunker, Oldham, Hayes, Allen, Payne, and Whittaker. The present examiners were re-elected.

The consideration of the notices of motion was then proceeded with, the first by Mr. Allen being as follows:—

That in the opinion of this meeting it is not desirable that any person who is engaged in preparing students for the Examination of the Pharmaceutical Society of Ireland should be appointed an Examiner of the Society.

The PRESIDENT remarked that he had had some doubt as to whether he should receive the notice of motion given by Mr. Allen, as he considered that it related to the appointment of examiners, a matter with which the Council alone had to do, and that it was not for the members to dictate to that body; at the same time he approved of the intention of the motion, but asked Mr. Allen to withdraw it with the view of bringing the matter before the Council.

Mr. ALLEN, in reply, stated that, in deference to the President's suggestion, he would withdraw his motion with the permission of the meeting; at the same time, while disclaiming any attempt to dictate to the Council, he thought that the annual meeting was one at which the members had their only opportunity of ventilating any matters or making suggestions. He instanced the case which induced him to give notice of his motion, which was that of a gentleman who had some intention of seeking for the post of examiner, and if appointed had in contemplation to add to his income by instructing pupils.

Considerable conversation of a desultory character ensued, and finally the motion was withdrawn.

Mr. W. F. WELLS, JUN., then read his motion as follows:—

That in future a full report of Council or other meetings of this Society be sent to the *Pharmaceutical and Chemist and Druggist* journals, immediately after each meeting, for publication.

He said there had been great irregularity during the past year in publishing reports of the meetings of Council; four times there was no report of the proceedings, and frequently it was not until the following month after the meeting that the notice was inserted in the *Pharmaceutical Journal*. Many members had informed him that they did not care to subscribe to a society of which they knew so little, and he thought there was a loss on that ground, as many who have not joined would do so did they see what action the Council was taking. He complained that the accuracy of the reports was not what it should be, and said the report of the last annual meeting did not correctly represent what occurred on that occasion, and also called attention that there was no report of the Council meeting in September, when a letter was received from the Privy Council approving of certain regulations affecting the annual election, and which, he considered, should have been made known to them.

The PRESIDENT admitted that there had been irregularity,

but hoped in future to have more regular insertions of the proceedings, and explained that at some of the meetings no business of importance was transacted, and no report was issued. He quite agreed with Mr. Wells that the meetings ought to be properly reported, and suggested that the motion should be withdrawn, and promised that in future the reports would be more regular.

Mr. FENNELL (Registrar) then stated that it was no part of his duty to furnish such reports, and that he would undertake no longer to supply them, and was proceeding to read a statement to the meeting, when Mr. Park objected to Mr. Fennell being heard, there being no accusation against him.

After Mr. HOLMES and Mr. BRUNKER had made a few remarks, Mr. WELLS asked why the reports were discontinued in *THE CHEMIST AND DRUGGIST*.

It was explained that, owing to some reports being omitted, and others being sent late for publication, that the Editor did not care to continue inserting them.

Mr. ALLEN read a letter which he had received from the Editor of *THE CHEMIST AND DRUGGIST*, in which he stated that the reports were so obviously prepared for publication and so carefully deprived of all general interest, that he did not care to insert them, but was willing to publish proper reports of the Society's proceedings if supplied to him.

The meeting then adjourned.

COUNCIL MEETING, OCTOBER 6, 1880.

PRESENT:—Professor Tichborne, President; Aquila Smith, M.D., Vice-President; Sir G. B. Owens, M.D., Messrs. Allen, Bennet, Brunker, Collins, Goodwin, Grindley, Hayes, Oldham, Simpson, and Payne.

The minutes of the meeting of September 1 having been read and signed,

A letter from Mr. Robert Barklie, F.C.S., of Belfast, was read, requesting information as to why his school had not been sanctioned by the Privy Council, and asking the Council to accept his certificate for the present session. The Registrar was directed to inform Mr. Barklie that the Council have already taken steps towards having the matter arranged. Messrs. Pring, Payne, and Whittaker, of Belfast, were appointed to visit the school and report to the Council.

A request from Mr. Bacon, of Londonderry, for a new certificate in lieu of one which was torn in transit through the post. The Registrar to inform him that a new one would be sent upon the Council receiving the damaged certificate.

Mr. Edwards Daniel Elmes, Carrickmacross, was elected a member of the society.

The report of the Preliminary Examination was handed in by Dr. Collins, showing that 12 were examined, 10 of whom passed, 2 being rejected.

On the motion of Sir G. B. Owens, seconded by Dr. Aquila Smith,

That the necessary advertisements be inserted this month in the *General Advertiser* for the election of new examiners:

after a division the motion passed.

A copy of Handzel Griffiths' "Materia Medica and Pharmacy," edited by Geo. F. Duffey, M.D., Dub., was presented to the library by the editor. The thanks of the Council were passed to the donor.

The meeting then adjourned.

The examination for the license of Pharmaceutical Chemist had not concluded when the Council rose.

A BOSTON PAPER points out that there is an alarming side to Mr. Bell's latest invention of transmitting messages by means of kerosene lamps. What is the use of keeping Anna Maria in close confinement, intercepting all her letters, discharging her favourite maid, and shooting even the innocent pigeons of the neighbourhood, while all the time, with persistent obstinacy and disregard of her most vital interests, she may be sitting demurely at her window, and, by arranging a few mirrors and lenses, conversing with her scapegrace lover half a mile away?

Metropolitan Reports.

ROBBERIES.—On October 12, at the Mansion House, Lancelot Poole, aged 20, described as a chemist, was committed for trial on various charges. The chief complaint against him was preferred by the London Bankers' Protection Association. It was alleged that he had forged the signature of Mr. S. B. Morris, chemist and druggist, of 37 Berners Street, with whom he had previously been apprenticed, to an order for a cheque-book, which, having obtained, had enabled him to forge also several cheques. Before committing the prisoner admitted the forgery. Other charges were made against him of stealing portmanteaus from Euston station and from the London and Brighton Company's station.

On the same date William Henry Billing, 34, a chemist's assistant, was charged at Bow Street, on behalf of the Post Office, with stealing 11*l.* 14*s.* 10*d.*, which had been entrusted to him for registration, he being in the employment of Mr. Budgett, Upton Park Post Office. He, also, was committed for trial.

Thomas Marshall, who had formerly been in the employment of Mr. George Smith Palmer, chemist, of 53 Wilton Road, Pimlico, was charged at Westminster on October 11 with having broken into Mr. Palmer's premises and stolen therefrom about 5*l.* 10*s.* in money. A waistcoat-button was found on the premises, and the prisoner was proved to have a waistcoat with just such a button missing. Other confirmatory evidence was given, and he was remanded.

At the Middlesex Sessions, on October 7, a man named William Seymour was indicted for stealing 2*s.* from the shop of Henry Allen, homœopathic chemist, 5 Cambridge Road, Kilburn. He had entered the shop, preventing the ringing of the bell, and had taken the money from the till before anyone attended, when he asked for a little plaster. He was found guilty, and sentenced to 12 months' imprisonment, with hard labour.

Provincial Reports.

BODMIN.

DISMISSAL OF THE DISPENSER TO THE EAST CORNWALL HOSPITAL.—A dispute of a rather acute character has occurred between the Managing Committee of the East Cornwall Hospital and Mr. T. T. Clarke, chemist and druggist, of Bodmin, who for 36 years has filled the position of dispenser. The quarrel arose from an order given by the committee for the removal of a number of empty hampers which had accumulated. Mr. Clarke, however, did not consider that pecking hampers fell within the duties of a dispenser, and the orders of the committee were therefore disregarded. Other points of discipline were subsequently made subjects of dispute, and at last the managing committee dismissed Mr. Clarke. The latter, however, refused to recognise the committee's authority in this matter, and on legal advice refused to go. A general meeting of the subscribers was held on September 25, and then it was generally conceded that the managing committee had exceeded their powers in dismissing Mr. Clarke, but as it was felt to be impossible for Mr. Clarke to retain his position with the same committee, notice of dismissal was served on him by the vote of the meeting. In a letter subsequently written to a local paper, Mr. Clarke comments on the animus shown against him by certain members of the committee, says he did pack the hampers, but that afterwards orders impossible to comply with were given him. He had for 36 years dispensed, chloroformed, assisted at every surgical operation, performed the minor operations of surgery, prescribed when necessitated, packed the empties, waited about for the doctors, and often hunted them up. At first he had done all the work gratuitously, but afterwards at a salary of 20*l.* per annum.

COVENTRY.

WAYZEGOOSE.—On Saturday, September 25, the employés of Messrs. Wyleys & Co., Coventry, and Messrs. Wyleys, Walker & Co., Upper Thames Street, held their wayze goose.

The spot selected was the classic town of Stratford-on-Avon, whither they proceeded by road and spent a pleasant day on the banks of the Avon. At the cold collation the health of the firm and the usual loyal toast were duly honoured, and the return to Coventry effected about 11 o'clock after an enjoyable outing.

GREENOCK.

BY A FIRE in Harvie Lane, Greenock, on September 16, the bottling works of Greenock Apothecaries' Company, as well as several dwelling-houses and stores, were destroyed. The damage is covered by an insurance of 20,000*l*.

PLYMOUTH.

WORTH NOTING.—Messrs. Blakwill & Elliott, chemists of this town, have discovered the following means of obliging their customers:—"For the convenience of our country and other customers, we have arranged a ladies' cloak-room, with a young woman in attendance, to take charge of anything that may be left. *No fees expected.*"

INTRODUCTORY ADDRESSES TO STUDENTS.

DR. J. LANGDON DOWN, F.R.C.P., delivered the introductory address to the students of the School of Pharmacy, Bloomsbury Square, on October 6. Referring first to his own early experiences in the school thirty-four years ago, he proceeded to show how the Pharmaceutical Society had originated from a recognition of the differentiating process which had separated the earliest medicine men into physician, surgeon, dentist, and veterinary practitioner, and pharmacist. He knew the difficulties which pharmacy was surrounded with, but he maintained that co-operative stores could never fulfil the functions of the pharmacist. The greatest danger for pharmacy lay in the growing tendency to the sale of proprietary and secret remedies. He then told how the physician is constantly being interviewed by the gentlemanly advocate of some new medical compound, who in Saxon tones or American phrase repeats a story which he has evidently learnt by heart. When the physician prescribes these specialties the days of scientific theapeutics are ended, and pharmacy may as well be transferred to the linendraper, the bookseller, or the Italian warehouseman. Clearly the future aspirations of pharmacists should not be in this direction, nor should they be in encroaching on the functions of the medical prescriber. No one can fail to appreciate the public advantage of an educated body of pharmacists throughout the land, whose opinion can be readily obtained on the action of medicines, their doses, and suggestions thereon; but the more educated in their specialty the more slow will they be to consider that what is called "counter-prescribing" should be their function and their aim. When one recollects how the proper treatment of disease depends on a correct diagnosis, and that only by prolonged study in the wards of a great hospital, with the opportunity there afforded of verifying or correcting the opinion formed on the living by the examination of the dead, can this be mastered, it needs no argument to enforce how thoroughly impossible it is for the pharmacist to gain this knowledge with all the means at his disposal. A treatment of symptoms will often be attended by the most disastrous results. A man complains of pain in his knee; you prescribe some embrocation, wasting precious time while a popliteal aneurism is threatening life. You are asked to treat a pain in the eye, and your collyrium is being uselessly employed while an acute glaucoma is surely and rapidly compromising a vision which might readily have been saved. Another complains of headache, and your saline aperient kicks the balance between life and death in a patient having initial symptoms of enteric fever. A little girl limps with pain referred to the knee; your lotion or palliative applied thereto wastes only precious time while destruction and irreparable mischief has taken place in the joint of the hip.

He then went on to urge that if met in the right spirit pharmacy will come out of its trials purified, with greater power of development in its professional aspect, and less assailable than aforetime by simply commercial associations.

It may be that at present too many are engaged in the mere work of distribution, and that the numbers of those engaged in pharmacy are beyond what are required. If that be the case, then the process of evolution will be in pharmacy the same as in biology, one of natural selection and the survival of the fittest. The pharmacists of the immediate future will be fewer in number, but they will be men of higher culture and of still more scientific standing, if this Society and the body it represents rises to what I conceive their duty at the present crisis. This led to the inevitable tilt against "cram," and to a long and somewhat frantic appeal to the students now entering on their career. Their course was likened to the ascent of a mountain, where there were many perils and temptations, and the heights of which seemed at first sight inaccessible, but if they would patiently and with ardent will follow their guides, they would before long find the thick mists clear away, and their journey would then be more joyous, as they should see the route which led to the summit.

The opening addresses at the various Schools of Medicine were necessarily somewhat tinged with monotony, but we observe with regret that other schools have now followed the original example of Bartholomew's in abandoning these wholesome and probably valuable exercises. Middlesex, Guy's, and Charing Cross Hospitals, as well as St. Bartholomew's, now omit the introductory. No doubt the officers and staff who listen to the same old tune year after year are likely to get somewhat weary of it, but it should be remembered that the address is professedly delivered to the students, and especially to the new students. These have probably never read, and almost certainly have never listened to, an address of this kind before, and even though it be filled with platitudes, it may help to encourage the young student just starting on his career, full of high hopes and noble resolves, with persevering effort and unselfish aims.

In several of the addresses the specialist quackery was rather hardly hit at. On this point Dr. George Johnson, at King's College, told a good story, which he had heard from Sir Thomas Watson, who had it from Dr. Latham, who was concerned in the narrative. Dr. Latham was a learned and accomplished physician of St. Bartholomew's Hospital, but he had published more on the diseases of the heart and lungs than on any other subject. A patient of his who had recently recovered from some pulmonary affection one day said to him, "I feel that, as regards my lungs, I am quite well, and now I think of going to consult Dr. Watson about my general health." To which Dr. Latham replied, "Yes, I see in your estimation, then, Dr. Watson is an architect, and me, I suppose, you look upon as a bell-hanger."

Dr. Donkin, at Westminster, declared that exaggerated specialism, based on the plausible and popular doctrine that the body could be studied piecemeal, was a prominent form of quackery in the orthodox ranks. Hence arose a *posse* of doctors for almost every organ and part of the body; hence, also, a perverted use of some instruments of research, in themselves valuable instruments, rendering possible an inspection of parts of the body invisible to the unaided eye, and beyond the patient's own power of observation. Might not this very possibility evoke sometimes from its lurking-place that evil spirit of designing quackery which sank the profession in the trade of medicine, and tempt it to turn invention to its own base ends by forcing even the "regular" practitioner, whose body it too often inhabited, to raise a false alarm of a disease which he declared himself specially able to cure?

Dr. John Cavafy, at St. George's, in commenting on the course of instruction, stated his belief that the subjects of botany and materia medica had lost much of their importance. A doctor was no longer obliged to collect his own medicinal plants, and, although many drugs were derived from the vegetable kingdom, it was only necessary to know their doses and actions. Again, a knowledge of crude drugs was nearly useless now to the practitioner, who bought what he wanted from a wholesale druggist, and not in the open market. All necessary knowledge of drugs might be acquired during the instruction in practical pharmacy, which was still wanted, though of decreasing consequence; while botany might be safely dispensed with altogether.

Dr. Ord delivered the address at St. Thomas's. In his

opening remarks he decidedly opposed the notion of providing a special course of school education for boys intended for any profession. The use of a school education was to fit men for the general purposes of life, to train them to take their place in society. To this end boys should be brought up in large schools, with a healthy public opinion, in which, by their reaction on one another, they tended to acquire moral symmetry. He then went on to urge that all their studies in science and medicine should be mainly based on actual observations, and not merely on books and diagrams.

Mr. Walter Pye, at St. Mary's, urged his hearers to get their first professional examination over as quickly as possible, so that they might devote themselves early and thoroughly to the main subjects of their study. They came there to learn to be doctors, not chemists or botanists. Looking at the subject from anything but a patient's standpoint, he told the students that, their scientific work got through, the "most enjoyable" part of their student life lay before them. As specimens of the delights to be experienced he mentioned such as the work of the dressers, clinical clerks, work in the out patients' and casualty rooms. He wisely advised them to rote particularly the more ordinary cases; these were, after all, the cases which they would most frequently meet with in their subsequent practice.

At the School of Medicine for Women, Mr. A. Norton recounted the difficulties which had been put in the way of the medical training of women which, however, had been finally removed since 1877, when the Royal Free Hospital had co-operated with the school by giving the opportunity for clinical instruction. In all 53 students had entered the school, and of these 13 were now on the medical register. In concluding, the lecturer traced the career of a number of English and American female practitioners, and showed that there was still room for more as medical missionaries, physicians in women's hospitals, and in private practice. All who had qualified had invariably supported themselves, and in many instances had accumulated an independence.

Dr. Burdon Sanderson delivered the address to the medical students of University College Hospital. He spoke first of the facilities afforded for the teaching of physiology by the new science wing of the College, now completed, saying that a "school" was now provided for the study of physiology—a place of leisure, not a place for cramming, but a place for genuine, quiet work. He said that students were attracted to the study of medicine, some by the desire to lead a useful life, others by an instinct for investigation. To the latter he pointed out what a great and important field of investigation lay before them in the study of pathology.

Professor Tuzon gave the opening address to the students at the Veterinary College, and, besides advising them as to their studies, he recommended them to take up with some athletic exercises, to cultivate a taste for reading, and thereby to fit themselves for social life by becoming acquainted with general literature, and to form discussion classes among themselves.

An interesting lecture on the life of Hahnemann was delivered as an opening address to the Homœopathic School of Medicine on October 4 by Dr. J. Compton Burnett, the editor of the *Homœopathic World*. The extraordinary mental ability of Hahnemann was evidenced by his teaching Hebrew at the age of 13, and by the fact that at the age of 20, when he entered college, he was acquainted with eight languages. He supported himself at college by translating foreign books for publishers, and at that time he commenced a habit, which he continued for forty years, of sitting up to work one night entirely out of every three. At the age of 24 he took his degree of M.D., and acquired a high position and a comfortable income, but, becoming dissatisfied with the unscientific character of the profession, he abandoned it, and again took to translation to support himself and his family. His discovery of homœopathy and the persecutions which he underwent were narrated at considerable length by Dr. Burnett, who also indulged in a lively attack on the professors of University College and Westminster Hospital, who had "thieved" Hahnemann's ideas without any acknowledgment. We believe this lecture will shortly be published.

SUMMER SALINE.

*Sig. Cum grano Salis
Sumenda*
M.H.

Old Recipe.

THESE depressing summer days of close confinement and dull trade stir such depths of sad thoughts in my poor breast that, to overcome a rapidly strengthening design on the "bare bodkin," I this morning resolved to dip into my scrap-drawer, from which on occasions I have extracted humour enough to blot out, for a time at least, these dark thoughts of physical annihilation. What wonder is it that, with growing competition, less protection, and expenses ever increasing, we pharmacists should now and then despond? Why, to-day I have been in close attendance at my counter, and till 2 o'clock my takings were counted in pence. My best customers are at the seaside, and those who remain are what a waggish M.D. friend calls "miserably healthy." My rent is over 80*l.*, and, besides an apprentice, I keep an assistant, whom I must pay such a salary that he is now off to Paris by one of these seductive "5*l.* 17*s.* 6*d.*, including everything," trips, whilst I am compelled to send my wife and children a few miles into the country, to the house of a relation, for change of air, and myself—well, I don't mind it; I enjoy shop life while there is business doing, and, as I close on Sundays, I can always spend that day with my family.

I sometimes ask myself if this is what I passed my examinations for. I suppose I chose badly, and no one but myself is to blame. I am proud of the gilt "Pharmaceutical Chemist" over the door, and I know that it catches a customer now and then; but prescriptions are few, and Mother Seigel skips as nimbly across the counter of the grocer at the hill-foot as over my carefully-polished mahogany.

Then the grocer has the advantage over me in having given to the townsfolks the before-unheard-of boon of "Patent Medicines at Wholesale Prices," while the drug chemists have set their professional faces against such ruinous trade; that is, we *did*; but a sheep—I shall not suggest his colour—has strayed from the fold. We held together boldly for some months, and sold a moderate quantity at full prices, when one morning a handbill, bearing the name of a brother pharmacist, was handed in, stating that henceforth he would sell 1*s.* 1½*d.* articles at 10*d.*, and others in proportion. Our grocer quickly followed with another bill, signifying his change from 10½*d.* to 10*d.*, and this, again, by the pharmacist intimating a further reduction to 9½*d.*, and there the matter rests. The "moderate quantity" of patents I sold has rapidly dwindled; even Holloway's pills threaten to become "shopkeepers," and who is to be benefited by this beggar-my-neighbour game I know not. A thrill of horror ran through the pharmaceutical body in our town when it became known that one had fallen away. We all thought our brother would have been the last to surrender. He had a good business, and had always spoken so strongly at our meetings against the "unwarrantable usurpation of our rights" by the grocer, enlarged on the "sacred principle of justice," and, whilst urging that every man should stick to his trade, insisted on the essential importance of united action.

Of course his is not a purely drug business; it is, in fact, the most mixed business in town. He sells cigars and tobacco, and makes a display of pickles, sauces, and other Italian warehouse goods. He lately took an agency for spectacles, and, besides combs and such toilet articles, has piles of brooms and brushes, and a peculiar odour, suggestive of paints and burning oils, pervades the atmosphere of his "pharmacy." I am not sure that he does not keep a stock of window-glass somewhere, besides agricultural and garden

needs, and I do not know what else. We think little of this, as it has become a recognised principle that when a chemist finds that the sale of drugs will not support him he is free to take to the trade of whichever of his neighbours he mostancies, or such portion of it as will be at once genteel and lucrative. But our cutting chemist considers himself by no means a grocer; in fact, he is a great stickler for "professional" status, and is our most effective critic of the Society. In fact, our brother is at his best when he is knocking "the Square" out of shape, and scornfully asks, "What has the Society done for us?" I confess that I do not consider myself a pauper that I should be helped by the Society, and we are—that is, ought to be—members, so that after all it comes to be a question of self-help; but that is just about the most difficult thing in the world to make progress with.

Pharmaceutical humanity is so trustful that someone will step forward and sacrifice himself in its behalf, that in rumbling at what it considers the shortcomings of others, it fails to notice that the cause of its misfortunes lies at its own door, and I venture to think the remedy in its own hands.

Thoughts of this sort do not seem to touch our brother, who expends his spare energy, as I have said, in criticising the Society; and on a late occasion he carried this to such a disagreeable extent that, having boasted of making £4 by paints, &c., for every pound he made by drugs, I was on the point of rising to tell him that he ought to join a Society of painters and glaziers, and not bother his head about the Pharmaceutical any more. But, truth to tell, I rather fear our brother in debate. He has a somewhat aggressive manner, and is an alderman, and I am but a timid creature, and not of much appearance withal when on my legs. What is to be done is the question of the hour. If we all sell at 9½d., we labour for no profit, and it is appalling to see our trade thus frittered away in an unhealthy and debasing competition.

On reading the first handbill, my impulse was to step in at once to the stationer next door, who is also emigration agent, and take a passage to somewhere for a man, his wife and six children; but possibly that characteristic of the craft, lack of energy, prevented me, and I still sit here and hope for better times, from the trade-encouraging legislation of the Bradlaugh government, or a special interposition of Providence, or something else.

It has occurred to me that there is nothing in store for many of us but emigration. We will not stoop to become waiters or tramway guards in England, so must go abroad to find some such useful employment, even if it be not quite so respectable. Might I ask, when is the manufacture of the drug chemist to slacken? Other trades hedge round their position and limit the number of apprentices each master may keep, but we hear nothing from masters but rumblings at the stringency of the examinations which prevents them from getting apprentices enough. It seems never to cross their minds that they are thus manufacturing in the best manner competitors for themselves. Were the examinations twice as strict as they are, it ought to be a subject for rejoicing rather than of complaint, at least on the part of those already in business; but I suppose it is the glint of the golden premium which blinds us. It would be well to-day for the trade if certain houses during the last twenty years had trusted more to legitimate profits than to these premiums. If they had employed more assistants and turned out fewer apprentices, their own trade, *ceteris paribus*, as well as that of their old-established brethren, would to-day be of another measure. I think, however, I had better put aside these more serious thoughts and devote myself without more ado to frivol. Were I a younger man, and in a position of greater freedom and less responsibility, I might have sought relief in a short flirtation with the muses, but to a father of six, that delight of my youth has become as insipid and unsatisfactory as cold tea to a thirsty Scot.

I perhaps make too much to myself of the warped education and tortuous mental processes by which the grotesque scribbings we have daily presented to us are evolved. But with the humorous genuine article before me, I am to be excused if I grin when all the world laughs at Artemus Ward's and Josh Billings's marvellous imitations in the same line.

Consider my feelings when a newly-imported barber from a back street, after making a purchase, handed me the following, with the request to "give it a good place in the window." The paper was by no means clean, and the writing is scrawly and carefully collected in the top left-hand corner:—

Har Catt at 53 Chowbenter St By
James moony For 2 pens And
Boys one Penny.

Many of the scraps brought by children are full of suggestiveness. For example, "1d. followers poder" took some thinking before I hit on fuller's earth. Not less suggestive are Harrow root, Coal Cream, Hole Ginger, comfort, shelly pods, croaks of anty munny, nibble Loithian, Gallop, Lick Rice Powder, cast steel soap, cow sick, sugar of laid, Pinker of Seal, eppy-ca ca wine, crush hell sults, Dick lame Plaster, Sadler's powder, Popie Hades, sweet nature, Syrp Skulls, kew babes, dogs alic aced, aca forty, Oil of Penny Roll, acks solid acid, and such like, which cause a smile as well as the idea called up by the spelling as at the thought of the wrestling which must have manufactured them. But the meaning is not always so clear. I might have been puzzled by "1d. spare mosetta" had not "do white wax" followed it, and "1 Sir Pofeuls" was made easy by the accompanying syrup of squill bottle. But "Gollie upstracted poison" required both study and inquiry to be sure that oxalic acid was meant, and the same applies to "daded acick," which was wanted for baking. Ararrot, odec alone, capres, catnip wine, clocerin, Glass Ireen, Simuliney, Syrup Pescuil, Sluts and crumyrither, Tinker of mirr, Collama powder, peppermint Lodgingers, and "penny with Seannie Levs" are more quaint than difficult to decipher. Borax is a word which seems to puzzle many, and I have it from Brx through Brax, Broax, Bracks, Brikes, Boorux, Booricks, to the more elaborate Boreickes, Barracxs, and Boarrackxs. There seems to be a type of mind that cannot be content with anything plain and easy, but delights in all sorts of difficult complications, which, if not existing, will be manufactured. These latter versions of borax are undoubtedly creations of such an imaginative brain, and so are seidizing powder, delapodoldock, Anticus Bilues Pills, Collossium pills, citrikated maenisiar, and assadafitidy Phils. It is also noticeable that, as a rule, such notes are written in a comparatively free hand. In fact, the writing would indicate such an education that it is difficult to account for the carelessness and want of observation which must have perpetrated such gross blunders, while in such as Brx, Gngr, chrcol, shugr of led, ersot, chmomll, sedless Poudrs, one is not surprised at mere spider-like scratchings, although the value that seems to be put on consonants might also suggest a Welsh origin. I have a few efforts in the phonetic line, but they are neither abundant nor very interesting. The best are sinamong, kamfor, Kusinel fosfors pist, Vilet powder, Kamomil flours, klored of lim, and cuian ground. Then, again, some have a particular weakness for transposition, as witness, "Lexy Daffy" for Daffy's Elixir, and "a Boax of Docter Weavers Locked" for Locock's wafers, and I have sluts for salts, and I supply tinct. opii for lad omine, loadamin, ludaman, and who shall say what I give as "ointmen for a carb"? I sometimes wonder what such a philologist as Max Müller would think of such aberrations.

I am asked in a beautiful female hand to "Be so good as send four pence worth of Bees Walks." Think of *La promenade des abeilles*. What is the "hen's march" to this? An old Irish woman, wife of a cobbler, is a regular customer for this article, and gives it quite another turn. She may possess the mental material with which to make a clever woman, but unfortunately she was not educated. Her husband requires the wax in one piece, and no doubt she thinks it absurd to use the plural in such a case, so insists on asking for "a penorth o' bees wak." These *rien à dire* blunders are sometimes not less amusing than those committed to paper. Procreative emulsion occurs to me as a very young lady's version of S. & M.'s well-known preparation, and then my cod-liver oil emulsion has been recklessly changed to convolution and even revulsion, which latter, I think, is not at all an inappropriate name. This catching at the sound only seems at the bottom of many of the errors we see, and reminds me of my horror on first hearing the Cork newsboys'

cry of "Examiner Constitution and Reporter," and the sense of relief on finding that it was merely the names of three newspapers I had heard. Of the same sort is the horse-hirer's famous bill, "ossafada 7-6," which being interpreted means, "Horse half a day, 7s. 6d.," and was followed by "agetinonimom 2," upon which the reader can try his skill.

Many elaborate epistles are before me, setting forth in harrowing details many a sad history, but I must return a number of them to my drawer as being unsuitable for your columns, now that the Society has admitted females, and they have of course become constant readers of THE CHEMIST AND DRUGGIST. Some are in no degree confidential, such as, "Plis i want 2 Braselstukes 1 coperass 1 alm for too die." Another, written in a bold female hand, brought in great haste one afternoon by a little girl, runs, "Please to give the Bearer something to sober a man that has a heavie Responsibility on the Railway." Verily railway travellers do not know to whom they may owe their safety. "One cotton elastic leg No. 7" could not be shorter and more to the point. But a weight of doubt and fear took possession of me when I read, "Plese give the Bearer a Powder for a woman has spent * a child and a pennyworth of hart horn." The following are fair examples of a class:—

"Coplair and skullis a few drops of apcac whin for child 14 montis old."

"Pouder guppler age 35."

"12 Poudrs and bring bak the lin."

"Podopollin Phill for seckness and sweeming in the heag."

"A doubil distilled Seddlitz Powder," which reminds me of a junior I once had who read "P. Scammon. Res." as "resublimed scammony," emptied the bottle into the "Virgin," and on being taxed with the mistake justified himself by referring to what he called "sublimed" olive oil, which he held to mean "best." When this can happen after five years at the business we may well excuse outsiders. This next is more lively:—"Three pence with of fine stron sent for mens poket hanks and 2d. Harmonior." A Scotchman once presented me with an elaborate recipe in which figured "Balsam of McPeavie." Marvellous national pride! What brain but that of a Scot could have discovered such a heaven-sent healing balsam?

The following reads like a desperate case:—"3d. The lequers of veatrel drops for cold swatins, and powder of quick medicon for a woman has a stoppage 42 years whose caut a cold"; and I was trustingly asked to prescribe for this also:—"Please give the bearer a collen powder a child for 20 months cold feverish and startin"; and here is even worse:—"Dear Sirr, If you cold give Agnes hestie anything that wold stop enward troble it is 3 weeks her meet comes throw her nearly as soon as she eats it."

Whilst I write a bright little woman, aged seven, comes for a "penrth o' pills," and in my desire for a more specific order, I asked what they were for. "For swallerin" was, however, all I could learn.

As I take up this next specimen of ultra-particularity, a feeling of awe comes over me when I think of all I have suffered from the same dear old lady, now, alas! with the majority. While she was able to take medicine she was a good friend to me. Her note, elegantly written, runs thus:—

"Mr. Pharmakos will please prepare six pills according to the enclosed recipe—each pill containing the same quantity of ingredients as if only three were made per recipe, in other words, either double the quantity of ingredients for six pills or first make the three pills per recipe and then make other three according to the recipe. An experienced hand would require to attend to this, and Mr. Pharmakos will please send the 6 pills down as soon as possible this evening, and please tell the boy to ring gently, or a tap at the door."

Our town rejoices in a very mixed population, and I have representatives of the three kingdoms amongst my patrons, so that it becomes a question of much difficulty sometimes to overcome the localisms our rapidly-growing town has brought together. I refer to such as "swines saime" for adeps, and "allacreach" for solazzi. It is amazing what difficulty I have in getting such people to understand that their name is not the correct one, and that mine is not the

outcome of mere pedantic conceit. However, this is an all-round egotism, and is nowhere more strongly marked than in the cockney, who, while objecting to what he calls the Irish and Scotch brogue, asks for his glass of "pile ile," and on Sunday listens with complacency to our parson—an Oxford man, too—murdering his native tongue as he reads the text thus:—"He that 'ath yaws to yaw let 'im yaw."

I fear that I am becoming rather too discursive, so had better at once come back to the realities of life, and as I have no sugar to sand, perhaps the reader will excuse me if I lay down the pen and reduce some essence of lemon and rose-water, which I see my apprentice has placed for my attention.

THE SMYRNA MARKETS.

BY JOAQUIN MARTI Y ARTIS.

Smyrna, October 1.

I AM sorry to see that my telegram to you of the 13th ult., which was forwarded at the proper time, was not delivered, and consequently missed your last issue; for your readers would have seen that opium had risen here, and that the market was very firm at that date.

In my former letter I said that both the governing and governed alike showed a strong dislike to the introduction of new ways and means for the raising of this country to a higher level in agriculture, and, as far as that goes, it may be added in every other branch of national prosperity; but I should have explained that what I meant by the governing classes does not necessarily mean the Government itself, though here, too, ugly signs of sluggishness and pigheadedness are not wanting, but rather that corrupt clique of pashas, caïmacams, and mudirs, who, like ravenous wolves, prey on and oppress the lower orders, and are, together with the whole box and dice of their parasitical satellites—kehayás, deftirdas, protégés, and all beyond—the scourge and the curse of the realm. These men, and the hungry brood of chicks they shelter under their wings, not only take no interest whatever in the welfare of the struggling populations they are sent to govern beyond wrenching from them *per fas et nefas* their last pará, ever striving to enrich themselves and their minions in the shortest possible time, but also thwart and defeat the good intentions of the Government at every turn, and always manage to put in their own pockets three-fourths of whatever grants are allowed for works of public utility; over and above all they extort in a thousand other ways from the people and everybody around them. Some people wonder how it is that no roads have ever been made in Turkey, and to this there are two answers. It has been said and whispered that the Government itself was averse to seeing roads made connecting its distant provinces amongst themselves and with the capital for fear that in case of war with a foreign power they should facilitate the movements of hostile armies; but this I am disinclined to believe, because great sums have at different times been placed at the disposal of the "valeys" of many provinces for making macadamised roads between some of the principal towns in Syria, Kurdistan, and Roumelia; but with the exception, I believe, of the vilayet of the Danube, which was admirably administered and raised to a high level of general prosperity under the enlightened administration of the present Governor of Smyrna, Midhat Pacha, they have all been complete failures, or were never made at all. A show was made, of course; Polish engineers might be seen going and coming, hurrying and flurrying, taking sights, planting stakes, and even going as far as having some heaps of stones gathered here and there, and thrown on the ground near the great towns, which every horse and mule, having a thought for his own safety, carefully avoids; but beyond that nothing was done until the pacha was changed; the money disappeared, and, *addio mastello*, there ended the farce, to be played over again by the successor of the fat pacha with the big belly, who goes off "in disgrace" to old Stambul laughing in his sleeve, there to lounge and wallow again in all the voluptuousness of Turkish "high life," fanned by harem houris, till the wheel of Kismet again went round and he got another opportunity of filling his maw. The consequence is that the provinces of the

* Weaned.

ish Empire are each in itself a perfect stronghold of arism, where, through a want of roads and an easy and yday communication with the outer world, the light of ern civilisation has been but feebly enabled to penetrate, where the thick and obdurate crust of ignorant fanatis- has to this day remained unbroken.

present each province stands a petrified mass, the whole of conglomerate rock, called the Ottoman Empire. province lives a life of its own, no light can reach it without, nor can its own wants or aspirations spread e-like from within; it stands there "cribb'd, cabin'd, and n'd," dependent on its own resources for subsistence. ears of plenty it feeds, in years of dearth it perishes for of food, which all the while may be rotting in the s of its next-door neighbour; for, as there are no roads, vers, no canals, no railways, nothing but the backs of es, camels, and bullocks to convey produce from one town urther over the mountain paths and across the marshy is, what would be the use for the husbandman to culti- more corn than he wants when it cannot be exported, ould not pay its carriage to the nearest town or port? all countries having any care for their national health, evelopment and improvement of agriculture obtains the e serious attention of the State. How much more so at it to be the case in Turkey, especially just now, when rruptcy stares us in the face, and the national life-blood st ebbing away, drained nearly to the last drop by a s of bloody wars, by the enormous expenses of a ruinous e defective administration, by the pilfering of all the erment officials and the unscrupulous extortions of ta "sarafs"—money-lenders. If you, being intimate a Turkish official, ask him why he robs the Government n already well paid for his services, he answers you, in onious Turkish rhyme, to this effect: "Devletin mab z dir—Yemeyen domuz dir." *id est, Anglicè*—"Govern- t property (or money) is a sea, and he who eats it not is."

at I should never end if I were to indicate all the causes in this way have tended to bring this country, *maugre* ast resources and inherent natural wealth, to the very k of ruin, yet she apparently seems to defy exhaustion, has still, it must be admitted, within her bosom all elements, all the materials wherewith the cunning d of a Bismarck or a Napoleon, if she only had one such, ould surely build up a new and robust empire. Here, e than anywhere else, the honesty of purpose, the rity and energy of individual public men, have the est influence for good or evil on the populations in se midst they are sent to govern. Their lives and for- es are, as it were, in the Pacha's hand, and his action er raises the province to peace and prosperity, or lerates its ruin, and the man, whether Sultan or Vizier, shall show will and pluck enough to bring forward with n resolve, and carry out and make a reality of some of e high-sounding promises we so often have seen upon er, that is to say, a good measure of justice and fair play, e different commingling creeds and nationalities now etating under the sceptre of Othman, shall have achieved himself the lasting gratitude of his race and people.

o the absence of carriage-roads is to be attributed the e presence of robbers and banditti in the hilly parts, where y cannot easily be got at. You may fancy what it is in out-of-the-way parts when I tell you that the city of ryna itself is often kept in a state of siege, and the abitants fear to put their feet beyond the city walls ough fear of these audacious brigands that haunt the ounding mountains. Three days ago the heads of seven them were exposed at the "Konak." They were sur- ounded by the police near Jumovasi, 15 miles from here, l, refusing to yield themselves prisoners, had to be shot wn like wild beasts.

Much, also, of the produce of the country cannot, for the ne reason, be forwarded to the seaports, as it would not e the cost of transport on the backs of mules from the ote parts. It was only last year, for example, that those all black raisins called "Tchal" could be exported, in e consequence of the unprecedentedly high prices offered in ance. In other years they remain where they are pro- ced, and are given to the cattle for food.

Again, to the absence of roads we must attribute the fact t the raising of large crops would not pay, neither could

machinery be brought into the country, for it would soon be spoilt in the hands of unskilled workmen, let alone the risk and difficulty of conveying into the interior over impassable mountain paths, where only a "chamois" could be sure of its footing. Anatolia gives every year splendid crops of grain, maize, millet, sesame oil, cotton, madder roots, valonia, and many other things; but it sometimes happens that some of these get destroyed by frost, hail storms, and locusts. These insects, which had regularly and at intervals of from three to nine years visited these parts, had since 1869 disappeared up to 1876, and the crops had, in consequence, always been abundant. Since 1876, however, our fields have been desolated by them, and unless the Government does something it is to be feared that next year's crops will be entirely destroyed. This year they ruined the cereal crops, and damaged more or less the cotton and the beans, as well as the red and sultana raisins, so that no corn, maize, or beans have been exported to Europe, the Greek islands taking at high prices all that was left. It was fondly hoped that the great quantity of grass which had everywhere sprung up would have sufficed to glut the locusts and shield the crops, but they came in such over- whelming swarms that they lieked up all before them. Such were their numbers that muleteers coming from the interior reported that they waded through whole plains of them up to the knees, and it is a positive fact that the wheels of the carriages on the Aidin railway have been clogged over and over again by the crushed bodies of their innumerable armies. A field, after these devouring insects have been its guests for a few hours, looks, en account of their droppings, as if it had been burnt up. From all this it will, I fancy, appear self-evident that the Government has here before it a vast field, its own inheritance, sadly in want of a good weeding, and it is certainly high time they set about it, ere briars and thistles and other noxious growths put it entirely past reclaim. To its present state one might well apply the old rhyme:—

'Tis the voice of the sluggard, I heard him complain,
You have woke me too soon, I must slumber again.
I passed by his garden, and saw the wild briar,
The thorn, and thistle, grow higher and higher.

Opium.—This market, rather dull at the beginning of the month, became stiff as soon as a few buyers appeared. About the middle of the month prices had slightly advanced, and up to last week seemed likely to continue so doing, but the demand ceased, and the market closed at the former rates, though always firm, as a general opinion prevailed in favour of further advancement. The expectation was realised towards the middle of this week.

As a sequel transactions of some importance followed, and about 100 baskets were bought up, principally by the Dutch Company. Up to that time this company had kept rather in the shade, on account of the high rates, but should it show its hand, and go in seriously as a buyer, there can be no doubt but that we shall yet reach still higher prices, as whatever news there is from London and New York is not unfavourable to such a result.

		Baskets	
Arrivals for month	.. .. .	933	
„ from Egypt	.. .. .	30	
		963	
Against	.. .. .	1,947	last year

The sales up to date are 990, against 1,360 for the corresponding period of last year. Our general stock is about 900 baskets, against 2,200 for last year.

At Constantinople up to the 22nd ult., according to our latest information, the arrivals were 406, the sales 288, against 838 arrivals and 652 sales for last year, and the stock there is estimated at 168 baskets against 280 for last year.

Prices close firm as follows:—

	Ps.	
New Karahissar	235 per chequi.
Old	233 „
New common	234 „
Talequale	210 to 220 „
Tchiquinti	185 to 192 „

The price of new opium (Karahissar and common) was nominal when the market closed yesterday evening, no

transactions in these qualities having taken place within the last ten days.

Gall Nuts.—To-day's prices are quiet, the demand having considerably slackened within the last few days. Our stock is about 20,000 to 25,000 oke (all qualities), and prices close as follows:—

	Ps.
Black	11 to 11½ per oke.
White and green	8 ½ "
Tzinguir	5 to 6½ "

Gum Tragac.—This article is in active demand, especially for choice qualities, which form the least part of our present stock—about 25,000 oke. The closing prices, tending upwards, are—

	Ps.
1st's	41 to 44 per oke.
2nd's	35 to 36 "
Rose	26 "
Vermicelli	20 to 22 "

Yellow Berries.—The stock is about 150 sacks, but as much stuff is soon expected, and the demand not active, the closing prices are dull, and are as follows:—

	Ps.
Karahissar 1st's	41 to 44 per oke.
" 2nd's	35 to 36 "
Jocab	26 "
Churum	5 to 6 "

Scammony.—The tendency of this article is also flagging, there being no buyers for some days past. Prices are quoted:—

	Medj.
Extra	24 per oke.
1st's	18 to 20 "
2nd's	10 to 11 "
Esquillo	6 to 7 "

Chio Turpentine.—Although London information as to this drug's inefficacy in certain diseases is discouraging holders do not any the less desist from their high pretensions, and this trammels transactions which otherwise every year take place at about this season. At present it is not possible to fix any reliable price.

THE OLD "PHARMACEUTICAL JOURNAL": A REMINISCENCE.

BY JOSEPH INCE.

CLASS JOURNALISM is one of the signs of the times. Competition has forced men who wish to gain a living to endeavour at least to be known for some one thing and to confine their attention to one branch of industry. Hence, in these latter days, a man is a specialist or nothing; and hence also there has risen up a distinct literature which devotes its energies to the supply of the particular information required. Many of us recollect with pleasure the old *Universal Magazine*, a periodical in which all the graphics and ologies were commingled; we can now regard its pages only as a record of the past, for the modern struggle for existence has banished generalities, and we have instead a long list of journals, special to an extraordinary degree, and reflecting advisedly but one side of trade, art, or science. One might fairly say that most of these class journals were originated by the necessity of the age: any body of men uniting in a common object must have a representative medium for intercommunication; some channel through and by means of which they can have an interchange of ideas. The old *Pharmaceutical Journal* anticipated such necessity, and its first establishment, as stated by Mr. Jacob Bell, was an accidental circumstance.

I propose, in an antiquarian spirit, to tell something of its history, and limit my remarks to the period which dates from its commencement in 1841 until it passed by the death of its lamented editor into other hands. The first six numbers were issued purely as an experiment. They were printed for gratuitous circulation, and were meant to inform the members of the medical profession, pharmacists, and the public, what was the nature of the new pharmaceutical meetings that had just taken place; to show the advantage of scientific discussion, and

the desirability that similar meetings might be permanently established. The original title, therefore, was "The Transactions of the Pharmaceutical Meetings." These papers, as regarded their printing, publication, and mode of arrangement, were not official; they were prompted by the earnest wish of Mr. Bell that a society devoted to the interests of pharmacy should be created, and their issue was one way, amongst others, by which that object could be achieved. It was, moreover, always present to the editor, who had within him a strong spirit of the initiative, that the world outside should not be blamed for its apathy with regard to pharmacy so long as the men who composed its ranks had offered no visible proof of being entitled to respect. These opening numbers were a free gift and were unconnected with any pecuniary speculation. Success attended the experiment, and it became evident that an English journal of pharmacy was a thing wanted, and that the design, with requisite enlargement and alteration, might be hopefully carried out; besides which there was now something that could be called a society, which had its members, infant organisation, and official staff; and the question rose—Should this society start a journal upon its own authority, and after its own pattern; or, should it sanction the publication which had already been commenced? Considering the actual condition of affairs, and that these pioneer contributions were largely indebted to one hand, we may consider that it was as much an act of prudence as of wisdom to have adopted the latter alternative.

So the red-cover monthly continued to appear, partly as an authorised representative of the Society, and partly as a private magazine—the editorial and official departments being distinct. It was called *Pharmaceutical Journal and Transactions*, and Professor Redwood throughout acted as sub-editor.

Unfortunately for those who have to be aided by reference research, the first number of this publication had been issued in the month of July, 1841. Every succeeding volume, therefore, contained the half of two different years, a circumstance which has inconvenienced many who have had to consult its pages.

Mr. Bell, though conducting a journal on behalf of the Society, remained both its proprietor and editor. Afterwards he was blamed for assuming an undue position, and for having placed his name upon the title-page. If any of our indulgent readers will go and build a school for our children, supply the masters and the books, start a gymnasium and a cricket ground, and endow the whole concern, we will allow them to attach their own name to that establishment and not charge them with assumption. There was one part, however, of the journal work which the editor did not perform; that was the printing, which was entrusted to Mr. Charles Whiting, in Beaufort Buildings, in the Strand. When the printing-offices were moved elsewhere the premises were occupied by Mr. Rimmel, the celebrated perfumer. A disastrous fire occurred, and the building was reduced to ashes, and was replaced by the present handsome structure. Modern improvement had not set in so determinately, and the hand printing machine was still used. It was over the press department, at the very top of the building, that Birtles, the compositor, presided. One might be forgiven for not knowing the Adelphi theatre close by, or even the Society of Arts, situated at a stone's throw; but not to know Birtles would have been unpardonable for a London pharmacist. He was an old man, free in his opinions on the contributors who sent him copy, and freer in his speech when, in his judgment, it arrived too late. Pereira for many years rendered essential service to the journal: he furnished a long series of remarkable communications which have become classic. Birtles was not among the number of his admirers, for the materia medica papers contained a mass of alterations which were exceedingly difficult to arrange. Nor was the old compositor placed under happier circumstances when Daniel Hanbury began to explain Chinese materia medica. We are not all of us familiar with that language, on which account a dot is usually placed by a careful contributor as a guide to the position of a character.

One day Birtles was observed to be in a perturbed frame of mind. "Here is Mr. Hanbury with more of his Chinese figures, and I don't know which is right side up." Toss for the difference, was suggested. "I hardly think I can

at," said Birtles, "for Mr. Hanbury is a rather par-
man."

aerial region over which Birtles ruled was approached
dilapidated and dirty wooden staircase, blackened by
e, and ereaky from the same natural cause. The odour
potential, and high up in one corner was an erection,
the summit of which was a stool which was as difficult
unt as it was dangerous to quit. On this stool,
ed from view by a partition, sat each original con-
or in turn, and corrected his own manuscript. There
freedom of action in those days about editorial work,
that stool I have myself sat for hours, gazing at the
arges which were moored where the Thames Embank-
now lines the river, and trying to discourse upon things
naceutical.

is remarkable that until the publication of *Phar-*
tical Journal (let the reader kindly note the exact
elature) there was but one other English periodical
ed to the same purpose. An incidental proof is thus
ed of the extreme indifference with which the subject
egarded, and we may understand the more than
etic treatment which any Bill which bore on pure
nacy experienced in the House of Commons. Honour-
members understood the words "poison," and "being
ned," and just so far as pharmacy prevented that un-
ntness they were disposed to listen to its claims.

first work of this description was commenced in 1839,
as called *The Chemist*; then came *The Transactions of*
society, which soon expanded into a regular journal; at
r period the *Chemical Gazette* was published, incor-
ed afterwards with the *Chemical News*; and two mem-
of council brought out the *Annals of Chemistry and*
ical Pharmacy. Two standard medical journals, the
t and Medical Times, both noticed pharmacy in a sub-
y manner; and to the list may be added *The Pharma-*
ical Times, a journal of chemistry, applied to the Arts,
ulture, and manufactures. One of these, the *Annals*,
cted by Messrs. Dickinson & Bastick, might have been,
some respects it was, an excellent periodical. It was
ed in a bold and beautiful type. It contained a good
of foreign chemistry and pharmacy; its translations
the French and German, specially the latter, were
ted with great skill, and it furnished, monthly, valu-
papers bearing upon trade interests. But for one
unate circumstance the *Annals of Pharmacy* might
continued to prove acceptable up to the present time.
ome reason, the motive of which I have never been
o understand, its leading articles were loaded with a
uous personal abuse of Mr. Jacob Bell, his public and
e actions, and the whole tenour of his career. These
ares went beyond the limits of fair criticism. Could
ing have disarmed opposition it would have been to
the person implicated read aloud these angry and bitter
ives. We can bear witness to the fact that they excited
eath of anger or resentment, but only sorrow that dif-
ces should exist which he in vain tried to obliterate.
dom has a literary venture been so strangely dependent
limited range of correspondents as the one directed by
ell. He obtained the help of a few excellent associates,
eir names were constantly recurring.

the medical profession were staunch friends, among them
rs. Ure, Garrod, Royle, and A. T. Thomson. Mr.
ard Phillips and his son; Professors Christison, Fowles,
Solly gave admirable assistance; as did also Mr.
van, Henry Deane, William Bastick, and Peter Squire.
William Hamilton, of the Octagon, Plymouth, was in-
igable, and his concise handwriting occupied exactly
same space as the printed copy. Mr. Morson, though
y interested in the undertaking, was an infrequent
ibutor, and still the lion's share fell to the lot of the
r and sub-editor, and to Jonathan Pereira.

hen a fresh impetus was given, and Mr. Bell determined
ess others into the service, Daniel Hanbury and Pro-
r Bentley stepped upon the scene and were most effective.
rs. T. and H. Smith, of Edinburgh; Mr. Abraham, of
pool; Mr. Giles, of Clifton; Mr. T. B. Groves, of Wey-
h; Mr. Southall, of Birmingham; Mr. John E. Howard;
J. B. Edwards; Mr. A. F. Haselden, and Dr. George
on, with some others, became constant helpers. We
still hold by the original assertion, that the habitual
ributors, though of known ability, were few.

Let it not be considered egotistical if in this reminiscence
I mention my own connection with the journal. Whilst a
student at Paris, I had written a description more graphic
than judicious on the "Ecole de Pharmacie." It contrasted
the poor attendance on the lectures of Guibourt, Chevallier,
and Bussy with the overwhelming eagerness with which the
courses at the Ecole de Médecine were attended. Mr. Bell
saw this account, and printed it forthwith, but at the request
of friends in the home circle it was withdrawn from publi-
cation. On my return to London I forwarded a short sketch
of Orfila, and was surprised next day to see the brougham
of Mr. Bell at the door of Messrs. Godfrey, in Southampton
Street, and the editor himself in the counting-house. He
came to say that I must present myself on the coming
Wednesday at the journal committee, which will be found
subsequently described. I pleaded want of time, and the
impossibility of the arrangement. When Wednesday
evening came I was dispensing a prescription, when Mr. Bell
again made his appearance, opened a side door which led to
the private staircase, took down my hat from its accustomed
peg, and, with me, drove off without further ceremony. It
is beyond my power to express in words the pleasure which
this intercourse afforded.

Those who imagine that journalism is an easy task cannot
do better than turn to the description of the labour expended
on the old *Pharmaceutical*, when its production depended
so greatly on the above-named individuals. I quote from
the "Historical Sketch of Pharmacy":—"After the hours
of business were ended journal work usually commenced,
and from eight or nine o'clock in the evening, until often
past midnight, two or three times a week, or sometimes
oftener, the editor and sub-editor were associated in editorial
work, or in conference on questions affecting the interests of
the cause to the furtherance of which the Pharmaceutical
Society and its journal were devoted. Not infrequently
these conferences were relieved or enlivened by an adjourn-
ment to Her Majesty's theatre, where Mr. Bell usually had a
box throughout the opera season, or to some other place of
amusement. Very soon after the appointment of Dr.
Pereira as Professor to the Society, he was induced to render
valuable service in the selection of articles on materia
medica for the journal, and to superintend the translation of
such as were taken from foreign journals. Once a month
the editor and sub editor spent an evening at Dr. Pereira's
house in Finsbury Square, to arrange the matter for a forth-
coming number, and provide for the future." (Page 286.)

The difficulty was increased by the official character of the
publication and the wish to reconcile discordant opinions.
Members of council had to be consulted before editorial
views could be definitely expressed, a circumstance which was
not always favourable to literary composition. It led
occasionally to the adoption of a style to which no exception
could be taken, but to which little praise could be awarded.
As the years rolled on it became onerous to Mr. Bell to fill
his journal, unaided, with useful and varied information.
Pereira, his constant friend, was dead, and this was a sad
loss. Younger pharmacists were more intent on business
than on literary work, and, moreover, the juniors, many of
whom had become first-rate chemists, had not acquired the art
of composition. In order to lighten the constant pressure on
himself, and on Professor Redwood, as sub-editor, Mr. Bell
changed somewhat the plan of his operations. A social com-
mittee was held once a month, and sometimes oftener, at his
own house in Langham Place; and at the one which was
held on the evening previous to the monthly meeting of the
Society the forthcoming journal was arranged. The editor
was always present, even when serious illness might have
been sufficient excuse for non-attendance. The sub-editor
was invariably at his post; and so was Daniel Hanbury, Mr.
John Barnard, and myself. Very delightful were these
literary gatherings, which took place in a drawing-room
the walls of which were hidden by modern paintings.
It was at one of these journal committees that a
specimen of the "Pocula Emetica, or Cups of Antimony"
was placed on the table. Wine allowed to stand for
some time in these vessels took up enough tartrate of
antimony to become impregnated, and thus a household
emetic was provided which might last for generations. The
particular cup in question was exhibited at a conversazione
by Mr. Trenham Reeks, of the Museum of Practical Geology,
in Jermyn Street, having been purchased for one shilling at

a Christie and Manson sale. It was rather a striking object, and the inscription, which was surmounted by a coronet, was in rhymed German. The first word, conspicuously printed in a single undivided line, appeared to be "Dubstein." What could be this strange stone or metal? asked Hanbury, always bent on original research. He knew many varieties of stein, but this, he confessed, was new to him. He turned to the dictionary, but was unable to find any mention of the Duby, or Dubl. Finally, the sub-editor took home the goblin, when, not a pharmacist, but a very clever person, resolved the mystery into "Du bist ein stein," and translated the legend thus:—

Thou art a wonder of nature,
And to all men a certain cure.

These recollections must be brought to a close. It became evident to the small committee which met at Langham Place that their leader would not long be spared to direct their counsels. Each recurring month the deterioration of his health was as marked as it was distressing. To the very last he would make tea, and take the head of his own table; almost to the last he uttered his old pleasantries, though in a voice which was scarcely audible. Then came the final committee which many another man would have countermanded. Mr. Bell could not speak; he walked with labour up the stairs; he could not have looked more dead when taking his last sleep in the cemetery at Tunbridge Wells by the side of his friend, Dr. Golding Bird. I have never forgotten the wretchedness of that most melancholy occasion. Each of his literary associates had an interview in turn, his wishes being conveyed in a written paper which was read aloud. Professor Bentley was present for the first time—I mean for the first time at a regular stated meeting; and when a new arrangement was effected he became one of the three recognised editors. To the writer of these lines Mr. Bell handed a communication which it has been his unceasing regret that he was not allowed to retain in his possession.

This was the concluding chapter of the old journal. It began in July, 1841, and ended in June, 1859. Eighteen volumes, therefore, constituted a series. Mr. Bell, in the presence of Mr. Morson (who uniformly acted as a sort of standing counsel), executed the transfer of the copyright to the Society, and the document was placed in the hands of the executors.

My task has been only to revive some memories of the past, and I trust that while the recollection of the scenes described has been personally grateful to the narrator, their reproduction may not be uninteresting to pharmacists of a later generation.

THE BOTTLING OF AERATED WATERS.

By WILLIAM INGLIS CLARK, D.Sc., &c., Pharmaceutical Chemist.

IN fixing the best conditions for the manufacture of a substance two methods are employed—the scientific and the practical. By the former, starting without preconceived notions, and basing experiments on a general plan, so as to determine *one* point at a time, it is possible, in some cases with ease, in others with great difficulty, to arrive at the best conditions for manufacture, while at the same time "the reason why" of each separate operation is obtained. The practical, and too often the rule of thumb method, differs from the scientific in generally attacking a number of points at once, making a few chance experiments, basing conclusions on the general results obtained, and in being either a lucky success or a partial failure. It is true that it is sometimes more easy practically to determine conditions than scientifically, but if the practical method be alone adopted we have no guarantee or reason for supposing that the best process has been arrived at. To refer more especially to the bottling of aerated waters, it would at first sight seem that nothing could be more simple and satisfactory as a test for the aëration of the water than that of the public, viz., the effect on the palate, and the violence with which the cork springs. If a maker, however, wishes

to produce the best article at the least expense a more complicated problem is presented, and I shall afterwards show that, from the scientific point of view, the problem is well-nigh invincible. An interesting paper on this same subject appeared in these columns some months ago,* and, although the conclusions of the author, with regard to the highest pressure desirable, may coincide with my own, I must differ with him as to the validity of his deductions from his published experiments. I shall take the points I refer to as they come in course, and before proceeding to these I would indicate the difficulties which present themselves in such an investigation. In order to determine such a simple thing as the pressure in a corked bottle corresponding to a given pressure in a machine, the level of liquid in the cylinder must be constant: it must be certain that the gas in the upper part of the cylinder is of the same composition (*i.e.*, contains the same percentage of CO_2); and, at all the different pressures, the water in the cylinder must be saturated at the given pressures with carbonic acid; the bottles must all be of the same internal capacity; the corks must be equally far driven, the amount of aerated water in each bottle must be the same; the filling should be done by the same workman, or more correctly, by a machine, and the amount of sniffing must be such as to leave the same residuum of atmospheric air in each bottle. Other precautions suggest themselves, but we may say, "it is enough," and stand aghast at the array of imposed conditions. Again, if we desire to compare the aëration at two pressures, it is not sufficient to state the pressure in the bottles, or to see whether the cork springs well, or whether the contents foam over the mouth on opening. It is not even sufficient to see if the two waters taste equally well, but we must, besides regarding all the former conditions, see that the amount of liquid poured into each tumbler is the same (for a long-continued pouring will deaerate the water more than a short one), and then we must analyse the water and estimate the carbonic acid. I have indicated these precautions, not that I profess in the experiments hereafter recorded to have succeeded in fully attending to them, but as indicating the line in which it is necessary to work in order that reliance be placed in the results. I shall now refer to some of the conditions.

The Estimation of Carbonic Acid.—It will be apparent that it is impossible to estimate how much carbonic acid is present in a bottle, by inserting a tube in the cork, and measuring the amount of gas which escapes into a gasometer, for we here assume that the bottle contains only carbonic acid and water (a great mistake), and we make no allowance for about 2 oz. of space remaining between the water and the cork. At first I passed the escaping gas through a chloride of calcium-tube to retain water, the tube through a weighed potash-bulb, with chloride of calcium tube attached, and determined the CO_2 from increase of weight, but I found this such a slow and unsatisfactory process, that I subsequently gave it up for the following. In estimating the total CO_2 in a bottle, sufficient pure soda free from carbonate, was wrapped up in gutta-percha tissue or placed in glass tubes, and inserted in the empty bottle. It was then filled with aerated water, and after corking shaken, so as to disengage the soda, and leave it at liberty to seize the CO_2 . The carbonate solution was made 500 cc., and 20 cc. of this were diluted with water, and precipitated and weighed as barium carbonate. In testing the aëration of water after pouring, I had ready the solution of soda (30 cc.), and according as I wished to determine the CO_2 at the moment of pouring, or one-half or two minutes after, I added it to the tumbler, the disengagement of gas ceasing immediately. The liquid was then analysed as before.

The Cylinder or Aërating Vessel.—To have good waters it is necessary that the best arrangements for aërating the water be adopted. I do not intend to discuss the merits of the various forms of cylinder, or to decide between the automatic pressure non-agitated cylinders, and the ordinary form where gas and water are pumped alternately or simultaneously into a cylinder, the contents of which are well agitated; but I may be allowed to point out that in the latter form it is impossible that a small vessel holding only

* "Bottling Aerated Waters." By John Briggs. *C. & D.*, June 15, 1878, page 252.

ns can, for a given pressure and rapid bottling, give well aerated water with a large vessel holding ons; for in the former case, if 2 gallons of water, on age, be present, and one dozen bottles be drawn from minute, the water for each bottle will only be in conth the gas for about 2½ minutes. With the 60-gallon er, containing say 30 gallons of water, each bottle will the advantage of 37 minutes' contact, and I do not e to say that two or three minutes, even with brisk on, is insufficient to saturate the water with carbonic I may state that all my experiments were made with rs of 60 gallons capacity.

of Water in the Cylinder.—Theoretically, if nothing bonic acid occupy the upper part of the cylinder, in ing the water with gas, the level (*i.e.*, the amount of present) is immaterial; but in practice, where some ways present, if the gas be made in the ordinary is found more easy to saturate the water with a half- nder than with one three-quarters full. The follow- ings indicate the amount of CO₂ disengaged from a well shaken for an hour, at the ordinary temperature. ₂ was estimated by the first-mentioned plan:—

TABLE I.

Cylinder Obs.	Level of Water Inches	CO ₂ Disengaged Average
00	12	1-398 1-598 1-719 2-046 1-630
25	14	1-348 1-056 1-414 1-150 1-120 1-287 1-029 1-145
20	19	
100	23	

e were filled by the Belfast bottling machine, and individual differences, but sufficiently bear out my ion.

Bottler.—From the manner of filling it will be evident amount of gas left in a bottle greatly depends on tler, and that a skilful bottler can leave as much e acid in a bottle filled at 75 lbs. as an unskilful one do at 200 lbs. pressure. For comparison, I took the CO₂ given off from the bottles, filled by two bottlers g at the same time, from the same cylinder, pressure , with the following results:—

	First class Bottler Grammes	Average Bottler (Good) Grammes
CO ₂	2-302	1-734

same bottler, however, varies very much, for no two are alike, and he must guess how much he requires the foot, so as to reduce the pressure sufficiently to water and cork in. With a machine absolute equality impossible; but we depend here on physical and not al conditions, and, accordingly, I have made all the ing experiments with the Progress Machine Com- (H. Tyler & Co.) automatic machine, filling, when cupied, 180 dozen per hour, and the results can be depended on.

Position of the Gas in the Cylinder.—This, the last of ditions to which I shall refer, is one of the most nt. I have already hinted at the presence of air, re discovering its source would briefly refer to its in the product. If we have 90 lbs. pressure of pure CO₂ el containing water, the water at 15° C. should take umes of gas, of which 6 volumes would separate on ed exposure to the air, 1 volume remaining in . If, however, we had in the vessel equal parts of 1 air, the pressure still remaining at 90 lbs., only alf the former amount of CO₂ would dissolve, 4 volumes, of which 3 would escape on exposure der's "Chemical Physics," 5th edit., p. 100). We t, that the presence of air in the cylinder is fatal, me suppose, because in solution it has a soft taste, use the apparent pressure is fictitious, and really e exist. The same remark applies to air in the From the above it will be seen that a pressure of pure CO₂ is really a higher pressure (for aerating) than 160 lbs. of a mixture of equal parts air and

CO₂, and, accordingly, bottles filled at the former may be better than those at the latter pressure.

Whence Comes the Air?—Primarily and chiefly from the generator. This vessel, holding from 10 to 20 gallons, is emptied of one spent charge of plaster of Paris, or it may be chloride of calcium, and it probably becomes full of air before the new charge has been filled in. Suppose 1 or 2 gallons of air remain after filling: the lid is put on, and the acid run in. Some, more experienced, allow a little gas to blow away before finally closing and sending the gas to the gasometer, but even then suppose 20 oz. of air remain: this is pumped into the cylinder along with carbonic acid, and for the most part accumulates, and if two or three such charges be made daily we shall soon have 2 or 3 pints of air present, which in a small 4 to 6 gallon cylinder is a serious proportion. If no blow-off cock be used this must accumulate from day to day, the only outlet being the mechanical passage of the air through the pipes to the bottling machine by the action of the agitator, the inevitable result being flat and insipid waters. We can now understand the difficulty in obtaining bottles at different pressures to experiment with, and the difficulty is not imaginary, for, besides the source of air I have mentioned, there are the numerous couplings, the packing of pumps, &c., all of which are liable to leak and allow air to pass into the cylinder. In a cylinder which I once had an opportunity of examining I found 50 per cent. of air.

Pressure in the Bottles only an indication, not a test, of Aeration.—I may premise that the pressures mentioned below were tested by the introduction of a pressure-gauge through the cork of the bottle. I shall give the results of testing a number of bottles at different pressures. The contents of each bottle were measured, but as the measurements do not seem to throw any light on the question I omit them.

TABLE II.—Showing the Pressures in Bottles filled at different Cylinder Pressures.

		Pressure of Filling							
	Pressure in bottles	77 lbs.	80 lbs.	90 lbs.	97 lbs.	97-100 lbs.	100 lbs.	120 lbs.	145 lbs.
		35	36	42	40	48	52	56	56
		36	34	36	49	45	49	51	54
		35	42	46	44	52	54	56	58
		42	46	38	45	52	49	52	53
		36	39	47	48	51	51	52	56
		42	36	37	46	53	47	52	56
		33	—	—	42	—	49	—	69
		45	—	—	47	—	51	—	—
		35	—	—	38	—	49	—	—
		38	—	—	—	—	44	—	—
		35	—	—	—	—	47	—	—
		41	—	—	—	—	43	—	—
Average ..		37.7	38.8	41	44.3	48.5	48.9	53.1	56.1

The above experiments were all made with bottles filled in the ordinary course of working, and although in each series there are considerable individual differences, the average at each pre-sure shows a steady increase as the pressure rises. In all cases it is apparent that a great loss of gas occurs during the corking, for assuming that but little air was present in the cylinder, we lose nearly 40 lbs. of pressure when working at 77 lbs., and 89 lbs. when working at 145 lbs. In addition to that, the apparent pressure in the bottles is not all carbonic acid, but is partly produced by air. The reason of this loss of pressure is that an ordinary cork will not remain in the bottle long enough to be tied, if the pressure inside be more than about 60 lbs., and the difference requires to be sniffed off before corking. By careful experiments, I am persuaded that, working with 55 lbs. pressure, it is possible, though not easy to get 50-54 lbs. pressure in the bottle, and accordingly, from this point of view, 55 lbs. should make as good waters as 140 lbs. Lest any may feel doubtful, I append the following pressures of consecutive bottles thus carefully corked:—

50, 51, 54, 54, 51 = Δv. 51.4.

By the use of an indiarubber cork of peculiar construction I was able to have even higher pressures in the bottles:—

Pressure in Cylinder.	75 lbs.	97 lbs.
Pressure in bottles fitted with india-rubber cork	56 56 53 62 56 53 55 62 43 65	72 72 68 70 72 72 — — — —
Average	56.6	71

It may be said that I have not substantiated my assertion, that pressure is not necessarily a test of aëration, for in the tables given above the pressure in the bottles rises with the pressure of filling. I shall first of all deal with the cause of individual variation in pressure in a given series, and at the outset I may say the cause is atmospheric air. Of course, if a bottle be full to the cork it can contain no air, except what may be in solution, and in like manner the amount present depends on the emptiness of the bottle; but the variation of pressure is caused by the amount of air in proportion to the space left in the bottle. In determining the amount of air I inserted a tap through the cork, noted the pressure by a gauge, inverted the bottle, and discharged the contents into a measure through the tap, removed the cork under water, and decanted the gas in the bottle into a graduated jar filled with potash solution to absorb the carbonic acid, and measured the resultant air at the atmospheric pressure. The following results were obtained, the air being given in cubic centimetres; 1 oz. = about 28.4 cc.:—

TABLE III.—Showing the cause of Variation of Pressure.

Pressure in Cylinder.								
77 lbs.			97 lbs.			120 lbs.		
Pressure in Bottle	Air cc.	Water oz.	Pressure in Bottle	Air cc.	Water oz.	Pressure in Bottle	Air cc.	Water oz.
42	60	9½	49	75	11	48	50	10½
42	55	10	48	65	11½	46	34	11½
36	40	10½	46	75	10½	44	24	10½
36	35	10½	45	60	10½	44	24	11½
35	35	10	44	65	10½	43	17	11½
35	25	11	40	25	11½	42	18	11½

In these instances (many more of which I might adduce did space permit) it is plain that the excess of air in the bottle is the cause of higher pressure in a given series. Whence comes the air? When a bottle has been washed and is ready to be filled it is full of air, and, as soon as the bottling-tap is turned on, aërated water rushes in till the pressure in the bottle is the same as that in the cylinder. No more will go in till the bottler allows some of the contained gas to escape. This, however, is a mixture of gas and air, and, unless a large amount of gas be allowed to escape, it is impossible to remove the whole of the air by sniffing. Machines have been invented to make apneumatic waters. These I have not seen, but, to examine the value of such, I filled bottles first with carbonic acid, and then with aërated water, sniffing in the usual way, and succeeded in much reducing the air present, so as to be of use for comparison.

TABLE IV.—Showing the Pressures obtained when Bottles are filled (roughly) with Carbonic Acid before filling with Aërated Water, and when full of Air, as in ordinary circumstances.

Pressure in Cylinder, 97 lbs.					
Indiarubber Cork			Plain Cork		
Filled with CO ₂	Full of Air		Filled with CO ₂	Full of Air	
Average pressure .. 59.3 lbs.	70.6 lbs.		45.4 lbs.		
„ air present .. 17.6 cc.	140 cc.		61 cc.		

Pressure in Cylinder, 77 lbs.

First filled with CO ₂		Full of Air		With Indiarubber Cork Full of Air	
lbs.	cc. air	lbs.	cc. air	lbs.	cc. air
34	14	42	60	56	
32	14	42	55	56	
31	20	36	40	56	
30	15	36	35	55	
29	12	35	35	53	
28	13	35	25	48	
Average .. 30.6	15	37.6	41	54	

In all these we see loss of air accompanied by loss of pressure, and it now remains to see if the water is equally well aërated.

I accordingly append a statement, showing the amount of CO₂ present in the bottle of water in the above given, also the amount of CO₂ present in an average 10 oz.: (a) when just poured into the tumbler, (b) after lying in the tumbler for half-a-minute, (c) after lying two minutes. It will be evident to everyone that, as impossible to get every bottle alike, and as the variations in each series must be determined from the average of different bottles, I cannot guarantee that exactly the same figures would be always obtained, but must carry a margin above or below the amounts given.

TABLE V.—Showing Pressure, Air, CO₂, Total, &c., in Bottles referred to in Table IV.

	Cylinder = 77 lbs.				Cylinder = 97 lbs.			
	Plain Cork		Rubber Cork		Plain Cork	Rubber Cork		
	Full of CO ₂	Full of Air	Full of Air		Full of Air	Full of CO ₂	Full of Air	
Av. pressure in bottle	30.6	37.6	54		45.4	59.3		
Av. air present ..	15 cc.	41 cc.	107 cc.		61 cc.	17.6		
Av. CO ₂ in bottle ..	grms. 1.854	grms. 1.965	grms. 2.478		grms. 2.24	grms. 3.035		
Av. CO ₂ in 10 oz. poured out ..	1.310	1.261	1.521		1.335	2.018		
Av. CO ₂ poured for half-a-minute ..	1.258	—	1.436		—	1.936		
Av. CO ₂ poured for two minutes ..	—	—	1.366		—	1.808		

This table is instructive in showing that the presence of air in the bottle cannot be regarded as very serious, for it does not find that by previously filling the bottle with CO₂ have greatly increased the CO₂ in the water as it is dissolved. My general conclusion from these and many other experiments is, that air in a bottle, by its disengagement on pouring, makes the water lose more carbonic acid than it would otherwise do, but that this loss is but trifling. In any case, by filling at a higher pressure and sniffing off more gas, it is possible to obtain all the advantages of having previously filled the bottles with CO₂. Many will no doubt prefer to have their corks springing well, even though the experiment is partly air.

In deciding on the pressure at which to bottle water can now see how complicated the question becomes. We see that a given pressure (a) in the bottle may be caused by air, but that by bottling at a higher pressure we get the same pressure (a) in a bottle without the air, and that in the latter case a better water is produced. It has been asserted that the advantage of highly-charged water is more apparent than real, and that on removing the excess of gas rapidly passes off, so that by the time it is poured into a tumbler and consumed it contains but more gas than would be present in water which has been moderately charged. This statement has no real foundation, and is opposed to the experiments which I now forward.

The loss of carbonic acid from aërated water depends on the pressure at which it is bottled, and on the time it remains in the bottle.

circumstances, such as the shape of tumbler into is poured, the amount of liquid poured into the he agitation it receives, the temperature of the e, and the freedom from cork-dust, and of these, presence of cork-dust, and high temperature cause rapid loss. But even under unfavourable circum- is astonishing how much carbonic acid will be re- the water for a few minutes at least. The experi- en below were made at temperatures ranging from and show that after lying for two minutes in a he CO₂ in 10 oz. may vary from 1.25 to 1.83, ac- the original amount in the bottle has been high

TABLE VI.

PRESSURE OF BOTTLING.

75 lbs	75 lbs	97 lbs	100 lbs	120 lbs	75 lbs	145 lbs	97 lbs	97 lbs
39.6	37.6	45.4	51	53.5	54	56	59.3	70.6
15 cc.	41 cc.	61 cc.	11 cc.	9 cc.	107 cc.	15 cc.	17.6 cc.	110 cc.
1.854	1.905	2.24	1.950	2.704	2.478	2.334	3.035	3.160
1.310	1.261	1.335	1.550	1.700	1.521	1.560	2.118	1.886
1.258	—	—	1.271	1.404	1.436	1.479	1.933	1.881
1.220	—	—	1.353	1.421	1.356	1.439	1.808	1.832
CO ₂	Air	Air	Air	Air	Air	Air	CO ₂	Air
Plain	Plain	Plain	Plain	Plain	Rubber	Plain	Rubber	Rubber

able I have only recorded experiments which can comparable with ordinary rack bottling, with the of those with my indiarubber cork, but it will be the most satisfactory pressure at which to bottle 00 lbs. to 120 lbs., and that higher pressures s, because the cork will not stay in the bottle un- ultimate pressure in the bottle has been reduced to a sufficiently low point. That higher pressures le would give better-charged water is undoubted, rs will not find it economical or safe to have more s. to 50 lbs. pressure in the bottle, and therefore der pressures are useless.

ow give a brief *résumé* of the subject, both from acturer's and the customer's point of view.

gard to the gas, or carbonic acid, it must be free and all the loopholes at which air could enter must ly guarded. The result of air in the cylinder is to itious pressure and badly-charged water. This a bottle by not giving off sufficient carbonic gas in blow out the air, with the production of a fictitious n the bottle and an inferior water.

ssure at which to bottle must not be fixed by any- is for each maker to see with the appliances and s disposal, what is the lowest cylinder pressure to produce in his bottles a pressure of 45 lbs. to e air at the same time not exceeding 28 cc., or z. I say this because, to produce the result, one ill require 150 lbs., another only 100 lbs., while s appliances I can produce the same with 75 lbs.

ecessary to limit the amount of air, for the reasons ore.

he consumer's point of view it is not sufficient to cork blows out well, nor whether the liquid foams outh. These may be the result of the bugbear great test must eventually be the palate, for con- cannot analyse the waters they drink, but in so is necessary not to blame a water for being badly when the fault may lie in leakage through the cork upwards, or perchance in the temperature of the ving risen owing to heat of the room, or in the of cork-dust in the tumbler, or in excessive all of which tend to render the water flat and The appearance of a long-continued froth on the also no criterion, for it may be caused by the use foam-producer, and apparently, from table VII, e but little, if any, effect in retaining carbonic acid. ents on this point have been but few. I. how- and them.

TABLE VII.

Pressure of cylinder, 100 lbs. CO ₂ in 10 oz. after two minutes' exposure.				3 Drops Gum Extract per Bottle No Gum Extract			
Pressure in Bottle		CO ₂		Pressure in Bottle		CO ₂	
54 lbs.	..	1.309	..	49 lbs.	..	1.589	
47 lbs.	..	1.329	..	43 lbs.	..	1.281	

In concluding I can only feel how far from complete this paper is, for there are many things which have cropped up in the course of work which throw much light on the subject, but the explanation of anomalies would occupy too much space, and under the circumstances I shall be content if I have added even but little to the great store of scientific information, as applied to practical work.

WRITING INK.

PROVERBially a bad writer never has a good pen; we often wonder if he has ever a good writing ink. A bad pen undoubtedly has a tendency to raise the old Adam within one, but a bad ink would raise the —; well, we need not particularise. It is not in the beautiful display of colour, characteristic though it be of a bad ink, which our ledger or diary exhibits after the lapse of a short time, that the peculiar aggravation consists. The beautiful gradation from an invisible or russet brown to a jet black might by some be considered even picturesque; but its most interested friend could scarcely plead this, or, indeed, any other extenuating circumstance for the ugly splash frequently to be seen on our treasured memoranda, and which has been occasioned by the unconscious transference to their pages of a huge treacherous mass on the point of the pen. Nor do we find a *penchant* for a fine hair-stroke, associated as it is, in some cases with which we are familiar, with a slight ocular weakness, very compatible with some of the peculiarities of the inks referred to. If we were in possession of Sam Weller's "pair of patent double million magnifying gas microscopes, extra power," we might be able to trace the watery fluid as we endeavoured to turn our favourite pot-hook. Having, however, only eyes, and eyes, moreover (will we confess it?), probably under the unacknowledged influence of advancing years, we have often to complain of a failure in our caligraphy, not to speak of the minor details of patience and temper. Now, many of the faults of the ordinary inks of commerce might be avoided by skill and attention and honesty, and, as these are virtues inherent, we presume, in every chemist, we have often thought that in the manufacture of ink he might find a legitimate and profitable addition to the limited scope of his operations and speculations. We therefore purpose at present giving a short account of some of the mistakes made in the manufacture of writing inks, together with some suggestions as to their prevention and cure, and adding approved formulæ for the production of the best kinds.

Opinion is divided as to the writing inks of the ancients. Some think that they were a mechanical mixture of pigments resembling the Indian ink of more modern times; others think that they were a veritable chemical compound, and others still that they were a mixture of these two elements in proper combination. In any case opinion is not divided regarding the superiority of the old over that of more recent time, both as regards brilliancy and permanency. All modern inks are essentially gallo-tannates of iron, though varying somewhat both in their mode of preparation and in the proportion and variety of the different ingredients entering into their composition. There are exceptions to this statement, as, for example, the cheap and simple ink discovered by the German chemist, Runge, prepared from infusion of logwood and chromate of potass. An ink prepared from these ingredients is not affected by acids or water, is black, forms no deposit, and is not acted on, nor does it act on, the pen in using. Unfortunately, after it has been prepared for a time, it gelatinises, in which condition it is totally unfit for use, nor have means yet been devised to prevent this change or to restore it once it has taken place. Consequently, it is not known commercially, and the same may be said of every

other preparation not having at least a trace of gallo-tannate of iron as a basis. Our remarks will, therefore, have reference entirely to such inks, and they may be conveniently divided into three parts, viz., (1) the *ingredients*, with reference more directly to the relative proportions in which they should be present; (2) the *preparation*, bearing on the changes which take place in the different ingredients; and (3) the *preservation* of the ink, bearing more immediately on the changes which take place from exposure, age, &c.

The Ingredients.—These are infusion of galls, sulphate of iron, and gum, the last entering into all inks (with the exception of the blue-black ink afterwards to be referred to) for the purpose of holding the gallo-tannate precipitate in suspension, and also giving the ink a body and gloss on drying. If too much gum be added the ink will lie on the paper without penetrating its surface, and will in consequence be easily removed. Moreover, certain other inconveniences will arise, such as the clotting of the ink in the inkstand on the least exposure, and the coating of the pen with the gummy matter, which prevents the ink flowing. The gum then should in every case be kept under rather than over, and most authorities give the proportion, as will immediately be shown, as part for part with the amount of iron taken. The apportioning of the iron and gall infusion is a more important matter, as on this depends both the intensity and durability of the ink. If the gall infusion be in excess, the ink, though black at first, will quickly change to more or less of a dirty brown, while if the iron be in excess it is equally objectionable in the other direction. Out of many recipes given in Watt's Dictionary, some of which are referred to as being too rich, and others as being too pale, three are selected as giving good commercial inks, and in these the proportions are respectively as follows:—

Galls	Iron	Gum	Water
12·5	2·4	2·4	100
6·3	2·2	1·9	100
6·2	3·1	3·1	100

We have not tried any of these, but from experiments with other recipes we would imagine the first had about the proper proportion of galls but a deficiency of iron, while the other two were both deficient in galls, and number three had an excess of iron for the proportion of galls used. This will probably be more forcibly brought out if we cite the recipes given by various other authorities. Ure, for example, gives the following proportions, with the remark that "the ink made by the recipe is much more rich and powerful than many of the inks commonly sold," and to "bring it to this standard a half more of water may safely be added":—

Galls	Iron	Gum	Water
10	4·2	4·2	100

and Gray gives the following proportions:—

Galls	Iron	Gum	Water
10	3·3	3·3	100

Another authority (Lewis), who has investigated the subject thoroughly, gives the relative proportion of galls to iron as 3 to 1, and the most favourable results have been always obtained in our own experiments in the proportions of 3 to slightly in excess of 1. Brande, on the other hand, gives the proportions 5·0 of galls, 3·3 of iron, 3·3 of gum to 100 water, but allowance must probably be here made for the mode in which the ink is directed to be made. The galls are directed to be boiled in the water, the iron and the gum added, and the whole kept for two months, with occasional agitation before straining for use. To understand properly the effect of these directions on the ultimate product it is necessary to dwell for a little on the second part of the preparation.

Galls contain both tannic and gallic acids in variable proportions, stated by different authors to be from 26 per cent. of the former with a trace of the latter up to 40 per cent. of the one and 3·5 per cent. of the other. The noticeable features here are, first, the somewhat extreme variations in which the tannin is present, and which suggests the use of the best galls, so as to get as uniform a proportion in the ink as possible, and, second, the extremely small percentage of gallic acid, and which suggests various

particulars in the preparation of the infusion, so increase the amount and bring it into proper ratio with tannin. Both tannic and gallic acids yield precipitates ferrous and ferric salts, the former white and the latter brown, but as the gallic precipitate is much more intense with ferric salt than the tannic, means are taken to convert so the tannic into gallic acid in the preparation of the infusion. To accomplish this the infusion may be boiled for a considerable time, or it may be exposed for some weeks in preparation or after it has been prepared to the action of the atmosphere. It is here we venture to suggest that much of the want of uniformity so often complained of in inks is produced, and consequently a close attention to details will be both expedient and profitable. Even a little variation in the process, such as a more or less lengthened exposure to atmospheric influence, or an increase or diminution of the temperature at which the experiment takes place, will affect the composition of the infusion, and disturb the relation which the ingredients bear to each other. In practice we have found that a fortnight's summer, when the temperature ranges between 70° and 80°, is sufficiently long for the infusion to stand, but in winter, when the temperature is considerably reduced, three weeks to a month is necessary. This, we should however, is for the blue-black ink, which we purpose recommending, and in the preparation of which even more care is necessary than in the case of the ordinary inks. To the blue-black ink, let 10 parts galls be taken and in as directed above, in 80 parts water. Strain, and add 3½ parts pure crystallised sulphate of iron, previously dissolved in 20 parts more of water. Lastly, add 4 parts of indigo, mix thoroughly, and bottle for use. This naturally brings us to the third part—viz., the preservation of the ink. And while our remarks here will refer immediately to the preservation of the ink of the foregoing formula, many of them also will apply to all inks of the gallo-tannate series. All inks of this series darken on exposure to the atmosphere, owing to the oxidation of the iron. In the case of the ordinary inks, it is preferred to prevent the peroxidation of the iron should be partially accomplished before using to give colour and, to a certain extent, body to the ink. If the oxidation be carried too far, however, the precipitate will acquire greater density in the case of the ferrous salt, and even in the presence of the gum will quickly deposit and leave the ink both weak in colour and weak in strength. If, on the other hand, too much gum be added to keep the precipitate in suspension, the bottle be shaken to diffuse the precipitate throughout the liquid, the ink in either case, on using, will simply soil the surface of the paper, and may be erased without difficulty. To prevent the iron in the blue-black ink from oxidising, the addition of an acid is generally recommended, as this retards the conversion of the ferrous into ferric salt, and consequently keeps the ink in a thinner and paler shade. Where the ink requires to be kept for a time, $\frac{1}{2}$ part of sulphuric acid, or, better still, 1 part oxalic acid, may be judiciously added; but as all acids act injuriously on the ink, and, moreover, as an ink containing a free acid acts as a preservative, the salts contained more or less in all papers, the where they can possibly be avoided is to be deprecated. The sulphate of indigo of commerce has, besides, involving an acid reaction sufficient, if not to prevent oxidation, at least sufficient to make the ink bite the paper, and more than this is injurious. Nothing will prevent oxidation if care in making, and afterwards bottling securely, is taken, herein consists the advantage of every chemist making his own ink. He can make it in quantities to suit his convenience and consumption, and he, therefore, can regulate the age, which, in other words, means the condition of the ink. Moreover, all the processes and appliances he is perfectly familiar with and has at his command, while the actual cost of the material itself is infinitesimal, that he may successfully compete—at least in the limited sphere of his own circle—with the large manufacturer, who, supplying wholesale and keeping up a stock of what expensive plant, is not so far removed as we first appear from the level of his competition.

FALLING-OFF OF HAIR.—Mr. James Startin (*Medical Journal*) recommends the use of a pomade of equal parts of vaseline and castor oil.

THE JAPANESE DRUGGIST.

of the Japanese druggist presents a very different appearance to those in Europe in respect to neatness, cleanliness. It has an open front, similar to our 'and butchers'; the floor is matted, and the is generally to be found sitting near the door, mly away at his little brass tobacco-pipe, with arcoal fire by his side to furnish him and his with the means of lighting their pipes with as venience to themselves as possible. As among and Egyptians, the customer salutes the shop-the Eastern salutation of bowing the body down-he mats, and before a transaction is commenced tries to it go through a series of these salutes most seriousness. Then they squat on their knees ach other, and commence a string of inquiries as her's health, that of their families, the condition inesses, the state of the weather, and so forth. customer makes known his requirements, which d in the same deliberate manner. Japanese are mostly obtained from the botanical section of uctions. Roots, barks, &c., are supplied in small h are prepared by boys, who, like their masters, are squatting on their heels and knees, with a round ood before them, in the centre of which sticks an g with an opening at the top, in which the boy point of his cutting-knife, and the lower part of e presses downwards, cutting the article which is k into small pieces about the size of a pea. This in which medicines are generally sold to custo o boil together ten or a dozen drugs, frequently e spices to flavour the decoctions. The Japanese ntly learnt their knowledge of medicine from e, who import several thousand varieties of herbs, als' bones, horns, and skins. They pay high hinceros horns, unicorn horns, tigers' bones, mon-musk, and castoreum, which are among the chief their materia medica, and in which they have . Japanese doctors of the China school consider processes should be very slow, and decry the rapid e effected by European medicines. In genuine pharmacy there is no need of the bottle, as patients pare their medicines themselves. The paper or envelopes their purchases is covered with a Chinese characters, seldom intelligible to the scholar. They make up a variety of ointments and external use, which are sold in small oval fish- substitute for the neat ointment pot or jar used in countries. Topical remedies are very numerous opular, and very hideous in their results. People ith pieces of paper stuck on their faces, necks, and ora is a favourite application as a counter irritant. from the felt-like down covering the leaves of the *Chinensis*, formed into little cylinders about an These are held to the body, lighted, and the og fusce directed to the skin by blowing with the y little bellows. The burn is believed in as a gent, and scars on the back and legs resulting application are very common among the half-naked of Japanese cities. The druggist is also a dealer s of dye materials, which are advertised by coloured e walls and on signboards; face powder is ed by the Japanese women, young and middle- rbonate of lead is the usual cosmetic. It is very rashed on the faces and necks of the women till is as white with it as though distempered, con- with their naturally yellow and dark skins. Pink r the lips and cheeks, in little porcelain cups or e an extensive article of business with the druggist, ring material is prepared from safflower or madder; iline dyes may have been used. Pumice-stone, sul- other mineral products are among the stock-in- the druggist. Pills and powders in boxes and e his equivalent to our patent medicines. These ed in many papers of many colours, and bear some ult Chinese characters, mysteries to the general d to himself as well. Musk is the only perfume extensively. This is sold in neatly-turned little

pewter boxes at a very high price; it is also used medicinally. Pepper, chillies, cloves, ginger, &c., also form a part of the druggist's stock-in-trade. Surgical instruments and useful appliances for invalids are not known to the doctor or druggist. He has the reputation among tradesmen and the public of making very large profits, and is popularly referred to as the 900-per-cent.-profit dealer. Japanese doctors only charge their patients for the medicine they send them, it being a breach of etiquette to charge for attendance; but the doctor always expects a present from his patient when the quarterly bill is sent in for medicines. The druggist delights in numerous signboards, the largest, bearing his name, is suspended from the wooden sunshades which project from the top of his shop fronts. The characters are written from top to bottom. Below his name the seal of the house is engraved. It is very usual, too, to embellish the fronts of the shops with the escutcheons of the princes who patronise them for the wants of their tenantry and troops. The walls and ceilings of the shops are hung with from 20 to 40 smaller boards bearing the names of some wonderful medical remedy, pill, or powder. Let the British pharmacist whose shop is free from show-cards cast the first stone at his Japanese *confrère* for this conduct. Such is the druggist of the inland cities, where European medicines have not penetrated. In the ports and in the capital a shelf is devoted to a stock of foreign medicines. The foreign-taught native doctors, and the Government dispensaries and hospitals adopt every variety of European and American medicine, surgical instruments, and useful appliances, and most of the druggists' shops in the capital, Tokio, Osaka, and Kioto now display both the old and new varieties of medicines. Frequently half the shop is fitted with glass cases, labelled bottles and jars, and stocked with surgical instruments, perfumes, feeding-bottles, &c., while the other is devoted to the sale of bones, horns, roots, &c., of the old China school of medicine. Every dealer in drugs must have a licence, and is required to display in his shop the "poison Act" of Japan. The Government are compiling a pharmacopœia from several European models.

The imitative skill of the Japanese is well known, and has been exercised by the native druggist in the fraudulent representation of the British medicine stamp. Some time ago a large trade in spurious chlorodyne, professedly of Messrs. Davenport & Co.'s manufacture, was stopped after some delay, at the request of the English representative. At present there is a great rage for patent medicines of native make, a tendency which the Japanese Government is disposed to encourage. By a recent decree the sale of Perry Davis's Pain-killer has been prohibited, the native medical authorities representing that its action was too rapid to be safe.

ON THE MANUFACTURE OF SOAP IN SMALL QUANTITIES WITHOUT BOILING.

By W. J. MENZIES.

IN the August number of THE CHEMIST AND DRUGGIST I explained how small quantities of hard soap could be easily made with pure powdered caustic soda by the "cold process." I now propose to explain how potash soap—that is to say, soft soap, or "fig" soap—can be made on an equally small scale. In the first place, however, I would point out the great superiority of potash soap over soda soap for many purposes. The most important one is the washing of all woollen articles. The difference between a soda soap and a potash soap for this purpose is very marked indeed. Potash soap makes the wool soft, pliable, and silky; it also keeps it white. Soda renders its harsh and brittle, turns it yellow, and causes it to shrink. This is a very well-known fact to all woollen manufacturers, and in Yorkshire, which is the centre of the woollen manufacturing trade, all the best woollen manufacturers use a potash soap only. In fact, they maintain that it is impossible to spin fine woollen yarn unless it has been washed with a potash soap. These remarks to a certain extent apply to linen articles, though not to the same extent as with wool. The use of potash instead of soda in treating wool is completely endorsed by nature

when the wool is on the sheep's back it is by nature coated with a waxy, sticky substance, generally called "grease." This substance, however, is found to consist to the extent of more than one-half of its weight of actual potash combined with animal matter, hardly a trace of soda being present.

Potash, also, in the case of all kinds of plants and trees is absorbed much more readily than soda; for this reason it has often been called the "vegetable alkali."

In earlier times potash was used pretty extensively in some districts in the manufacture of soap on a small scale. In North America and certain parts of Germany and Russia where there were large forests, the trees were burnt for the sake of the ashes they produced, which contained a considerable amount of potash. These ashes were mixed with lime, the potash then dissolved out, and the clear lye taken for boiling with oil or tallow to produce soap. It was a very tedious process; yet in many districts in America the older inhabitants still maintain that they cannot now buy a soap equal to what they themselves were accustomed to make from wood ashes. In Germany potash soap is still used very extensively for household purposes; in many districts even more so than soda or hard soap. There are several reasons why potash soap has not been much used in this country for household purposes. In the first place, before cotton-seed oil was introduced it was always the custom to use fish oil for making soft soap or fig soap; this gave a highly disagreeable smell. It is also the custom to make fig soap for manufacturing purposes more especially, and therefore containing a large amount of free alkali—that is to say, very sharp-tasted and strong, which renders it unfit for household purposes. A general idea has also been entertained that because "fig" soap or potash soap was soft, it contained much more water than soda soap, and therefore was not so economical to use. This is quite a mistaken idea, the soap being naturally soft because made with potash, and not because it contains more water. A fine quality of potash soap from olive oil has always been made for woollen manufacturers, but this was naturally very expensive. Cotton-seed oil, however, has now come into general use, and during the last few years has been manufactured on so extensive a scale that it is now actually much cheaper than tallow. The manufacture of this oil has been so much improved that the best qualities cannot now be distinguished either by taste, smell, or appearance from olive oil. With cotton-seed oil combined with potash a very beautiful soft soap can be made.

The source from which potash was first obtained was from the ashes of trees; these were lixiviated and boiled down, giving a crude impure potash, generally called "Montreal potash." This article corresponds very much to the old source from which soda was first obtained—that is to say, the "barilla" obtained from seaweed. Some 20 years ago extensive mineral deposits of muriate potash were discovered in Germany, from which carbonate of potash (corresponding with soda ash) has been extensively made. It is impossible, however, to make potash soft soap on a small scale with either of these articles, as they require dissolving, treating with lime, concentrating the resulting lye, and removing the impurities before they can be made available. Within the last two years, however, caustic potash has been produced; that made by the Greenbank Alkali Company, of St. Helens, Lancashire, being as pure an article as their double refined powdered caustic soda. A first-class potash soft soap can easily be made with this pure article, very much in the same way as a hard soda soap, in the following manner:—Take 20 lbs. of Greenbank pure caustic potash, put it in any can or jar with $3\frac{1}{2}$ gallons (35 lbs.) of water. Stir it once or twice, it will dissolve immediately and become quite hot. Let it stand until the lye thus made is cold. Place in any convenient vessel for mixing $8\frac{1}{2}$ gallons of cotton-seed oil. Pour the lye into the oil in a small stream, at the same time stirring with a flat wooden stirrer about 3 inches broad. Continue gently stirring until the lye and grease are thoroughly combined and in appearance like honey. Now cover the vessel up and put it in a warm place until next day. The oil and lye will then be found nearly all combined. Stir up well again and leave for a few days, when about 125 lbs. of very stiff soft soap will be found. If for use by the consumer nothing more need be done, but if for sale it is rather too stiff and more water must be got in to cheapen the cost per pound. This can be effected by throwing any weighed quan-

tity of the stiff soft soap into a pan or boiler with about third of its own weight of water—that is to say, for 100 lbs. of stiff soft soap add 33 lbs. of water. Slowly it and stir it so as to mix it with the water, but do not mix it. In this way a soap having about the consistency of ordinary fig soap will be obtained, and at a cheap cost. The soap will improve very much with keeping, becoming whiter and better in appearance than when newly made. To 100 lbs. of cotton-seed oil about 75 lbs. of tallow or grease may be substituted. This gives a capital washing soap, but white and not transparent as when made with oil. Lard oil can be used, but it has a peculiar smell, which is objectionable. Any other oil can be substituted except kerosene or mineral oil. With the above recipe the soap will be slightly sharp or alkaline. If required quite neutral or tallow must be increased. If tallow or grease is used the soap is made quite mild and neutral it is in appearance just like almond shaving-cream. A little real almond oil added produces a very fine soap for toilet purposes, lathering very freely indeed; in fact, such soap put up in jars or pots and a little taken on the hands for washing makes a beautiful toilet soap, much superior to soda soap, with the advantage of being easily made on a small scale at a very small cost indeed.

An addition of potash to ordinary hard soda soap, and the directions given in my article in the July number of THE CHEMIST AND DRUGGIST, very much improves it. It is necessary to substitute about 2 lbs. of pure caustic potash for each pound of double-refined caustic soda. A substitution in this way of about 10 per cent. of potash will not make the soap much softer. Two per cent. so substituted makes the soap rather softer, and improves the quality of the soap in lathering and detergent properties very much improved. Pearlash is sometimes used for the purpose by toilet-soap makers. It is added to the soda mechanically mixed with it in the form of a very stiff paste after the soap is formed. Pure caustic potash is, however, better as it is than in true combination with the tallow or grease forming the soap, which can never be the case with a carbonate of potash. Refined pearlash or sal soda can, however, be substituted to great advantage in place of soda crystals for all washing purposes, especially for toilet goods. It works more quickly and effectually, and does not irritate the skin in the way that soda does. For this reason it should be preferred by all laundresses. The best quality of pearlash can be used, or what is a decided improvement is the fine crystallised powder form, lately introduced by the Greenbank Company. It is cheaper and yet purer than Montreal pearlash, and has the advantage of dissolving immediately in cold water, which is rather an important point. For all washing purposes it is more economical than the water before using soap, as the soap is saved, and potash is the most effective article to use for the purpose.

THE INTERNATIONAL FOOD EXHIBITION

THIS Exhibition, which was opened on the 1st of October, marks a distinctly new era in food supply. It has long ceased to be a self-supporting country for its food products; but this is the first occasion on which a systematic exhibition of home and foreign food has been set out for general information. Whatever the design of the promoters may have been, it is quite clear that the exhibitors' design has been to bring forward American and colonial produce as possible and so that the new colonies were quite able to feed themselves. This aim was very fairly demonstrated on the opening day, when more than 100 dishes of canned or preserved articles were served. The list comprised all the ordinary articles of a good dinner, with very few exceptions it was quite up to the standard. Even allowing that these articles were specially selected, the result was very satisfactory.

The Exhibition itself is unique. It probably contains the largest assortment of so-called temperance beverages has ever been collected. The future which has set in is well shown here. Whiskies, too, are conspicuous by their number and, it is only fair to say, general excellence.

have these two extremes of non-alcoholism and we did not see a single sample of brandy or a honest wine that was worth a line of comment. Starch and farinaceous foods form a good proportion, but unfortunately the former shows no room is room for a new and good baking-powder, but it does not supply it.

And cooking utensils are well represented, but of these we have no space to speak.

Pharmaceutical preparations we were disappointed, not so much as to quality as number. Some good things were shown, and for the matter of that some bad ones were exhibited were too few. Why cannot our pharmacists if they spend time and labour in perfecting an elegant preparation, the time is thrown away on the public know of it and buy it. There are a score of improvements in pharmacy unrepresented, which have deserved favourable consideration by the

those who did exhibit in this class we noticed Messrs. Fry & Moore, who exhibit their infants' food. As this is, we wish we could have had the opportunity of judging of some other of their preparations. Messrs. Allen & Hanburys make a larger exhibit, which besides medicated jujubes and pharmaceuticals generally, a few specialties. The "Perfected" is certainly as nearly unobjectionable to the palate as any oil can be. Fishy taste there is none, and if you take salad oil he may safely venture on this. Of malt which they show tastes well, and if it is in proper proportion of diastase it certainly ought to be a useful article. As to the patented malted food, it is not possible to say more than that the certificates as to it lead to the impression that it is carefully prepared, and very likely to prove useful. It is shown in all varieties, and they are less objectionable than any others we have seen.

There is shown a whole series of specimens relating to the process, beginning with the vessel used in the fishery, and with the finished oil and the various medals won by him for it. The peculiar feature of this oil is its clearness or freedom from deposit. To Messrs. Müller pastes his labels' face on to the back of the bottle, so that the printed matter can be read on the bottle and oil. To many persons this may be a desideratum, and the flavour being improved, will, of course, increase the interest in trying it. Of foods (so called)—chemical drinks would be a more appropriate name—are so much a chemist's business that we shall take them next.

Messrs. Fry & Co. show their Royal chemical food. It is agreeable to taste, and seems as if it contained no phosphates, but for the confirmation of this we must wait for an analysis.

Messrs. Harriot shows "Sparkling Bine," also a non-alcoholic, in addition, we find "Sparkling Hygeia," "Vin Santé," "Sparkling Phosphade," ginger beer, and ginger ale. All of these are presumably non-alcoholic. The taste gives us the impression that this is not of course, the time has been too short to verify the analysis. At any rate, most of them are palatable, and a valuable beverage of this kind does contain many medicinal agents, such as phosphates, a small amount of alcohol, say, 2 or 3 per cent., such, for instance, is usually found in ginger beer, might well be

Messrs. Evans, Sons & Co. show a number of samples of fruit-juice beverages, which include all stages, from the juice itself, containing 8 per cent. of citric acid, to finished syrups of six or seven different flavours. Of these the pine and raspberry are really good. Of course it is enough to say that they fairly pass an analysis.

Messrs. Kemp & Medus show horehound ale and stout, and a regular that anything which does really contain alcohol have been made so palatable.

Drinks are shown, but some of the older and best are absent. Among the new ones exhibited are a mineral water, said to be a natural water, super-aerated at the time, the taste is pleasant, and it seems likely to come into use.

Mr. Hay, of Hull, deserves mention for his very fine essence of ginger, miscible with water without milkiness. Besides the essence he exhibits specimens of ginger ale made with it.

Pond's Extract Company, of London, show their extract and some specialties prepared with it, such as soap-toilet cream and ointment.

Messrs. Burroughs show extract of beef and beef and iron wine, with several other specialties. The taste of the beef and iron wine is at least as agreeable as we could expect to find it, and gives proof of the presence of the proper constituents. Probably no one would expect to be able to use it as a pleasant after-dinner drink. Still, it seems to fill its place.

The Aylesbury Dairy Company show their new butter preservative. It is, of course, quite impossible to test their statements before this is printed; but, if half of what they say is true, it is a useful article, and well worth the trouble of trying on other things than butter.

Malted foods are very prominent, and probably Messrs. Fry & Sons are most conspicuous in this line with their malted cocoa, which certainly seems good. It is stated to be made by mixing extract of malt and cocoa, and the result bears this out.

The success of the exhibition this year augurs well for its repetition on even a larger scale next year.

Personalities.

MR. LEMUEL CALLAWAY, who has successfully conducted a pharmaceutical business at 21 Tavern Street, Ipswich, for 13 years, has taken over the retail business of the General Apothecaries' Company, at 133 Oxford Street, London. Mr. J. D. Cossey, formerly of Great Yarmouth, has taken Mr. Callaway's business.

IT IS ANNOUNCED by circular that Messrs. S. M. Burroughs & Co., of Snow Hill, have formed a partnership with Mr. Henry S. Wellcome, a gentleman who for a long time filled a responsible position in the well-known house of McKesson & Robbins, of New York, and is favourably known to the trade of North and South America. He and Mr. Burroughs are both graduates of the Philadelphia College of Pharmacy.

Foreign and Colonial.

THOROUGH DISINFECTION.—The Council of Public Hygiene of Paris, on the proposition of M. Pasteur, has decided to erect two establishments, one at each end of Paris, intended for the disinfection by steam of all furniture or clothing contaminated by individuals attacked by any contagious diseases.

A NEW PHARMACEUTICAL SCHOOL.—A new school of pharmacy is to be opened at Brunswick on October 15, which will give special attention to training young men for the wholesale drug trade. Materia medica, adulterations, microscopical and qualitative analyses, and botany will be the special subjects of study. The course will occupy two sessions, and the fees for each session are 7*l.* 10*s.*

THE MEDICINE STAMP IN AMERICA.—Druggists all over the United States are uniting to urge Congress to repeal the stamp tax on proprietary medicines, perfumery, and cosmetics. A Bill to that effect has been introduced and referred to the Committee on Ways and Means, which has heard arguments in its favour. It is argued that the revenue from this source, some \$2,000,000, is small compared with the machinery required.—*Chicago Western Trade and Export Journal.*

THE AMERICAN CONSUMPTION OF QUININE.—The *Oil, Paint, and Drug Reporter*, of New York, says the annual consumption of quinine in the United States is not much over 1,000,000 ozs., about one-third of which will have been this year of foreign manufacture. The same authority says that up to the end of September New York and Boston alone had imported 225,000 ozs., against 109,000 ozs. in the previous year. For the moment it would seem that American dealers are somewhat overstocked.



Terms for Advertisements, see page 45 (advertisement section).

Terms for Subscriptions, see page 421 (literary section).

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CHRISMA—A NEW BASIS FOR OINTMENTS

IMPROVED JUJUBES (PATENT). See

TONGA { A SPECIFIC FOR NEURALGIA.
See page 9.

Fletcher's Concentrated Liqueur
For full particulars, see CHEMIST AND
July 15th, pages 70 and 71.

MAY & BAKER. { SPECIAL page

EDITORIAL NOTICE

AMENDING THE PHARMACY

WHEN Hannibal pitched his tent before the gate of the ground which his army occupied was sold at auction in the city of Rome itself at full price. no doubt, some theatrical display on that occasion was, at least, a good piece of strategy on the City Fathers, and it had its due effect on the City officers when they got the news of the sale, which took very good care to convey to them. History nised a vast difference between the courage of ancient Republicans and that of the Imperialists who, at a later period, reaped the glory of fooling on his fiddle amid the flames of the city. But to which of these examples shall we like to make a difference of the senators of pharmacy? They are not only threatened with attack, but they have been defeated in their efforts to resist the invader;

their two months' holiday, with discursive surely, but charmingly free from any of that anxiety which their constituents feared might be the enjoyment of their rest at such a critical time in the history of pharmacy. We trust, if the corporate managers can spare the time, they will study the debates with which the Pharmaceutical Council will be filled away a pleasant autumn afternoon. It is not uninteresting in themselves, but it must be besides, that men, with such serious business in hand, must be very confident indeed of their success if they can turn aside from it with such comparative trivial subjects. Their primary duty is the protection of the trade; surely protection is not an unimportant even! They have an Act of Parliament before them with a special view to aid in that protection, and the judges of the land have declared that shield to be a paper one. "The consideration of the matter has been referred to a special committee." No doubt. That was the result of the last meeting. Then the committee has been appointed. We cannot help thinking that in the course of those two months this committee might have been able to perform their duty. They could come to a conclusion in one evening as in twenty. The circumstances are remarkably simple. They had a Pharmacy Act, which proved worthless. Shall they forget it and leave the country in its present disordered condition, or shall they amend the Act either repealed or amended? That is the question for the committee. One would have hardly needed reference, but at any rate we are all disappointed at the evidences of inactivity and lassitude which are accumulating. The committee succeeded with their action to the last appeal, provided they defeated there they should have a definite result to present to Parliament with. Now it seems to be a matter of whether they shall go to Parliament at all. It was in the portals of one of those committee-rooms that we read the inscription which we need not quote, but which is accused of impatience, we can reply by the piles of lumber which owe their forgotten existence to having been "referred to a committee."

PHARMACEUTICAL SOCIETY'S SCHOOL.

In the affairs of their school, sometimes in connection, sometimes out of it, by admitting the outside world to occasional glimpses of their difficulties, without mystery, and definitely stating what is the matter, the somewhat confused notion of what they want to do. The Pharmaceutical Council have succeeded in giving the impression that some strange, mysterious fate has cast a dark shadow over their school in Bloomsbury. They are utterly unable to discover one fraction of the cause, concealing anything in connection with that cause, indeed, there should be some deep crimes in connection with which we are still unacquainted. The school has been running short of pupils has been in a secret for some time past. Surely the united efforts of twenty-one intelligent gentlemen is not required to maintain the mystery of that decline. The cause lies on the surface. For a good many years past a very active professor connected with the school has been going up and down the country, never missing an opportunity of procuring a student for examination. In these proclamations he had the tacit support of his colleagues, and often the encouragement of notable pharmacists. No-

thing could have been more clearly established than that the Bloomsbury School of Pharmacy was not intended to prepare candidates for examination. It was a declaration of policy courageously promulgated and gallantly maintained until the inevitable results followed. For be it observed, the large majority of the probable customers of that school were candidates who desired to be prepared for examination. They were not eager seekers after truth; panting investigators into the secrets of nature; earnest souls aspiring after the infinite, the ideal, the immeasurable, and so forth. They were young men who wanted to get taught just about as much chemistry, botany, and pharmacy as the law insisted upon before they could practise the occupation for which they had already to a great extent qualified themselves. Now, if Sir Frederick Leighton should set to work to declare, with a great deal of vehemence, that he was thoroughly resolved not to debase his art by painting signs for public-houses, publicans would, we suppose, accept his declaration with whatever equanimity they could get together for the purpose, but they would assuredly be somewhat astonished if Sir Frederick should later on complain and inveigh against them because they did not bring their signs to him to be painted. So, if the professors of the Bloomsbury School of Pharmacy are really so far above the work which certain customers require, let them congratulate themselves on their loftiness, but, in the name of common sense, let them take their isolation with becoming dignity.

Mr. Hampson's "demonstration" against the school was hardly likely to produce the direct result which he, professedly at least, aimed at. Pharmacists all through the country would have been staggered if they had learned that his motion to abandon the school had been carried. With its history, traditions, equipments, and staff, it still possesses the power of teaching pharmacy second, perhaps, to no school in the world. Its weakness lies in the fact suggested by Mr. Andrews: that it is directed by twenty heads instead of by one—half of those being full of theoretical notions. A little evidence is forthcoming of a willingness to meet the requirements of students, and, if the theorists will let that tendency flourish, the school will recover itself again easily enough. Still, the startling fact mentioned by Mr. Hampson deserves reiteration, that every pupil in the school last session cost the Society 6*l.* 16*s.* Had Mr. Hampson rested his case on that ground solely, no member of the Council could have voted against his motion on any other ground than that it was premature, for it is impossible to suppose that members will for long be willing to maintain a charity in order to aid in the provision of more competitors in an already overcrowded profession.

CHEMISTS' ASSISTANTS' ASSOCIATIONS.

We have received the programmes of the London and the Edinburgh Chemists' Assistants' Associations.

The fourth session of the London Association commenced on October 13, when the President, Mr. F. W. Branson, delivered an inaugural address. Three meetings a month have been arranged for—one devoted to social talk, music, or the annual dinner, the others to scientific and literary subjects. No papers of pharmaceutical interest are provided till March.

The third session of the Edinburgh Society commenced on the same date, and in the same manner as that of the London. One paper a month on purely pharmaceutical questions has been promised.

THE IRISH PHARMACEUTICAL SOCIETY.

AFTER a dead season of unusual length the pharmaceutical chemists of Ireland, or a few of them, seem disposed to wake up into a little new life. Their few outbursts of energy have not hitherto resulted in the performance of any very permanent work since the passage of their Pharmacy Act itself, for which they were, perhaps, more indebted to the jealousies between the medical bodies of Ireland than to their own efforts. Their scientific evening meetings and their School of Pharmacy move along like a mighty river, "noiseless, majestic, deep." Noiseless, anyhow. Their Council meetings when under distinguished medical patronage were hardly likely to be the arena of much excitement, for the medical officials cared for none of the things which interested pharmacists, and yet were sufficiently influential to check any tendency of the latter to revolt from their ruling. Since the resignation of the presidency by Sir Dominic Corrigan, some two or three years ago, Irish pharmacists have had the management of the affairs of their own Society more exclusively in their own hands; if anything, their proceedings have been more dull and decorous and uninteresting than ever.

We are not surprised to learn that some of the younger members of the Society are not quite contented with the present condition of affairs. They get no indication of what their Council is doing for them beyond just so much information as that Council thinks it good for them to know, and this seems to have been given in some months and omitted in others with a sort of lazy carelessness not generally characteristic of Irishmen, but explainable, perhaps, by the apparently overwhelming contempt for "the press" which seems to be entertained by the secretary of the Society. The omission of reports of the Council's proceedings in this journal was alluded to, and a very sufficient explanation of that matter was given. But we should like to add that some two years ago we offered to the Council a proposal, which many of its members had previously approved, whereby the interest in their proceedings might have been well maintained among their members and others on terms very favourable to the Society. The matter was of far more important concern to the Irish Pharmaceutical Society than it was to us, but in the eyes of certain members of the Council we had committed all the seven deadly sins rolled into one in venturing to address a proposal to such an august body. The august body, however, did not seem to be above bargaining, but we were, and the scheme consequently fell through. We are glad to see, however, that there is some chance of an improvement in the method adopted for communicating with the members and the outer world, and we see no reason why, with a little more spirit, the Irish Pharmaceutical Society should not worthily fill the place to which it is justly entitled.

SCHOOL BOARD PHYSIOLOGY.

THE NATIONAL HEALTH SOCIETY has been advocating the teaching of physiology in the Board Schools of the Metropolis, and an examination of girls for prizes offered by the Society was held a month or two back. The examination was attended by 215 girls from 11 schools. There are 234 Girls' Board Schools in London altogether, so the teaching of physiology does not seem to have been much extended as yet. Specimens of the results attained are not very encouraging. One question asked was, "Mention any occupations which you consider to be injurious to health, giving reasons for your answer." The following were among the

answers:—"When you have a illness it makes your body as well as having a disease." "Occupations which are injurious to health are carbolic acid gas, which is blood." "We ought to go in the country for a few days to take plenty of fresh air to make us healthy and strong every year." "Why, the heart, lungs, blood, which are the most dangerous." The word "function" was a great puzzle to many, and many answered that the skin discharges a function by perspiration. One girl says, "The function of the heart is between the lungs." Another says, "What is the function of the heart? Thorax." Another girl, in answer to the sixth question, says, "The process of digestion should never eat fat, because the food does not digest." Another class of errors is that of exaggerated statements. One girl answering, "A stonemason's work is injurious to health because when he is chipping he breathes in all the chips, and then they are taken into the lungs." Another says, "A bootmaker's trade is very injurious, because the bootmakers always press the boots against the thorax, therefore it presses the thorax in and it touches the ribs, and if they do not die they are cripples for life." One girl, probably of genteel tendencies, roundly declares that "mechanical work is injurious to health." One describes the heart as "a comical-shaped bag," and another refers to "petitions and to its right and left artillery; another to the derby and the eppederby. The elementary canal, of which appears in the answers, and the reduction of food to a *plump*, as one child describes it, is commenced by a *variously* referred to as *shewing*, *scheewing*, and *jew*. It should be added that the examiner reported the papers of the Sixth Standard as in general being very well written.

THE PRODUCTION OF QUININE.

THE United States Consul at Milan, reporting on the manufacture of quinine in Italy, introduces the following sentence referring to quinine and salts of quinine: "The production of the world is estimated at from 230,000 to 260,000 lbs. per year, as follows:—Germany, 56,200 lbs.; Italy, 45,000 lbs.; France, 40,500 lbs.; England, 27,000 lbs.; America, 63,000 lbs.; India, 12,250 lbs." According to these efforts are to be made to acclimatise the cinchona in Italy. Its successful culture in India and Ceylon encourages the belief that it will grow wherever the soil is dry, the fall large, and the climate temperate.

A HOSPITAL SUNDAY FUND IN DANGER.

UNLESS Jews and Methodists, Ritualists and others should shortly change their skins and their spots, the Hospital Sunday Fund is in considerable danger of failure in its career in the manner usual to enterprises which are on the union and harmony of the loving brethren of various sects. A grant made by the Council of the Fund to the Eastbourne Convalescent Hospital (which in reality a metropolitan institution) was challenged on the ground that attempts to proselytise some of the members had been made by over-zealous attendants. A committee has invested the charge, and though it seems to have been not quite unfounded, there does not appear to have been much in it. But an unguarded statement by an undisciplined clergyman of the Fund Committee to the effect that the Fund had been done had been sanctioned by a bishop of the Dissenters. The dispute was settled fraternally in the present, but blood has been tasted, and the dogs of party war have shown their teeth, if they have not actually let loose.

THE BANJO CURE.

Samuel A. Francis, of New York, contributes to the *Medical Gazette* an account of a cure which means untought in any of our modern medical systems. A lady patient was dying "in an elegant and comfortable room." Her parents and nurse were "apprehensive of her certain exit." Her organisation was "intense," her mind was cultivated, and she was the object of the ridicule. She had been taking chloral until she had brought herself into a state of stupor and somnolence, and now she "had no mind to die," and "gracefully, but firmly, refused all effort" to save her. Remembering her character, the doctor rushed home and fetched his banjo, and, placing himself in a prominent position, began to play nigger melodies, until he was at last "overcome by the low ripple of a laugh." He kept on, for three days and three nights, by which time the patient had her appetite, and ultimately perfect health, after three days and three nights of such treatment. The patient, an English prize-fighter. The sentimental young man, who had an elegant and luxurious bedroom, who had been firmly resolved to exit, must have had the satisfaction of a pig to have stood it.

THE PHOTOPHONE.

The photophone, or phonoscope, or telegraphoscope, or whatever it may ultimately come to be called, is a new method of transmitting the credit of which, it appears, is due to Mr. Alexander Graham Bell, whose name is so well known in connection with the telephone. By means of it spoken words are transmitted, or rather "telephoned," for a distance along a beam of light. The apparatus, so far as it is briefly as possible, consists of a silvered mirror, and a glass, thin enough to be flexible. The voice is reflected back of this mirror, and a beam of light is reflected from its front to the receiving reflector, which is also of glass, and contains in its centre a "cell" of selenium, specially prepared, connected in a local circuit with a telephone. Now selenium has the curious property, until Mr. Bell's experiments, was believed to be inert to itself, of offering more or less resistance to the passage of electricity, according as it is acted upon or not. Two years ago Mr. Bell declared his belief in the possibility of making heard "the falling of a shadow," by using the action of light on selenium. He has since carried out that idea, and this photophone is the result. When the mirror causes undulations in the beam of light, these undulations cause shadows on the selenium, and the sounds on the selenium are reproduced on the ear by the repeating the sounds of the voice. The apparatus prepared by Mr. Bell, is 15 times as sensitive to light in the light as in the dark. The announcement of this invention, in which he was assisted by Mr. Sumner Tainter with himself, was made at the Centennial. The longest distance he had transmitted by the photophone was about 800 feet. A curious feature in connection with this apparatus is that the speaker can be heard to speak by silent motion, and his words can be heard at the selenium end, in articulate sounds. The practical value of this invention cannot of course be overestimated, but the experience in Afghanistan of the late war suggests the possibility of great advantages in the use of every of the means of using a beam of light for telephonic communication.

DR. LANGDON DOWN ON PHARMACY.

DR. LANGDON DOWN surveys the field of pharmacy from his comfortable height, and though he knows and sympathises in our troubles here below, yet bids us be of good cheer, for he sees a promised land beyond, where trade and its troubles shall trammel pharmacists no longer, but where professional fees shall blossom in full luxuriance for those few pharmacists who shall have survived in the struggle for existence. That blessed prospect, it must be understood, is to be realised only if we set our faces like flints against all sorts of proprietary medicines, and shudder at the thought of giving a seidlitz powder for headache, lest enteric fever should be developing in the frame, and our rashness should, in the doctor's own elegant metaphor, "kick the balance between life and death." We must also attend ten months at the School of Pharmacy, Bloomsbury Square, and at no other school; and when we have completed our studies we shall see our way to becoming galvanists, analysts, doctors, or anything other than chemists and druggists, and so may manage to keep the wolf from the door.

At the Exhibition of 1851 Professor de Morgan was asked what he thought of a certain new stop of a new organ. "That depends," said the Professor, "on what you call it." "Why," asked the performer, "how can it matter what the stop is called?" and, as might be expected, he quoted what Romeo said to Juliet (or what Juliet said to Romeo) about roses. "Well, it's like this," answered De Morgan. "If the stop is called a flute stop, I should call it harsh; but if it's a railway-whistle stop, I should consider it fairly sweet in tone." We came to a somewhat similar conclusion regarding Dr. Langdon Down's address. For the encouragement of students of "holy purpose and high resolve," certain parts of it were excellent; but the oration aimed at giving general advice and consolation to "the trade," as well as encouragement to students, and in those respects it did not manifest any very great skill in the disposal of the economic questions of pharmacy which its author essayed to treat, his assumptions being vitiated by the most concentrated class prejudice and by the ludicrous exaggeration of studied burlesque.

TRUTH SEEKERS.

THE ROYAL COLLEGE OF SURGEONS OF IRELAND has recently promulgated an ordinance providing that "no Fellow or Licentiate of the College shall seek for business through the medium of advertisements or any other disreputable method, or shall consult with, advise, direct, or assist, or have any professional communication with any person who professes to cure disease by the deception called homœopathy, or by the practice called mesmerism, or by any other form of quackery, &c." The same college fulminated a somewhat similar ordinance in 1861, but as the Medical Act expressly prohibits all licensing bodies from imposing any obligation on candidates for their diploma to adopt, or refrain from adopting, the practice of any particular theory of medicine or surgery, the college has never yet ventured to bring their ordinance to the test of enforcement. One of the editors of the *British Journal of Homœopathy* has, however, now amiably offered his assistance to the Irish college in its strenuous efforts to make itself ridiculous. He remarks that though the Council have not declared what steps they intend to take against such of their licentiates as infringe their ordinance, he cannot suppose that their solemn decree was a mere *brutum fulmen*; he therefore begs to draw the attention of the Council to the fact that the ordinance is habitually disregarded and disobeyed by the following licentiates of the college, namely:—W. Bell, R. Tuthill

Massy, H. W. Robinson, J. Roche, C. C. Tuckey, and C. G. Watson, who are in the habit of consulting with, advising, directing, assisting, and having professional communication with persons who profess to cure diseases by homœopathy, and who, indeed, are themselves engaged in the same practice. It must be obvious that a college of surgeons, as such, is no more an authority on therapeutics than it is on theology, and therefore these Dublin infallibles had better take their lesson quietly and bury their silly ordinance in the limbo of their own conceit.

MOTHER SEIGEL ON HER TRAVELS.

Mr. A. J. WHITE was the name of the American gentleman who introduced Mother Seigel and her syrup to the notice of the population of Great Britain. We read in the *Pharmaceutische Zeitung* a rather amusing account of an "Engländer," described as Herr A. J. White, who has been endeavouring to plant a "Shaker Extr." in Germany. A Dresden apothecary writes to the *Pharm. Zeitung*, saying that this Engländer, with a German, called on him on a Saturday, offering him an agency for this "Shaker Extr.," at the same time informing him that they would commence the house-to-house distribution of pamphlets on the next day (Sunday). The apothecary says he gave his visitors "the only possible reply," which was to use his efforts elsewhere. When they were gone he ran round to the editor of the chief local journal, and got him to publish a paragraph warning the public against the pamphlets and the medicine. He further adds that he has since read that the Police of Public Health have seized and confiscated 500 bottles of the "Extr." and 60,000 pamphlets, on the ground that Mr. White's representative, a Herr St. Eimer, of Frankfurt, did not hold the necessary trading licence.

In the same number of the *Pharm. Zeitung* appears a prominent advertisement, inserted by Mr. A. J. White, giving a certificate signed by Dr. Theodor Petersen, of Frankfurt, in reference to this Shaker extract, of which the doctor says he has made two chemical investigations. We can but commend the ingenious method in which Dr. Petersen avoids committing himself. He says: This dark brown, emulsion-like, turbid, watery extract, of fresh smell, bitter taste, and acid reaction, is prepared, according to your prescription, of the following plants:—*Iris versicolor*, *stillingia officinalis*, *faraxacur officinale*, *Juglans regia*, *gaultheria procumbens*, *hydrastis Canadensis*, *euonymus atropurpureus*, *actæa racemosa*, *gentiana rubra*, *aloe*, *capsicum annuum*, and *lignum sassafras*. To the watery extract of this little collection is added some borax, simple syrup, and hydrochloric acid, and, lastly, for its preservation, as it is not alcoholic, some finely-powdered Spanish pepper and sassafras wood. Theodor proceeds in the solemnly pompous manner which is nearly played out by analysts here, to range out his decimal fractions in recording "the mean of his two analyses"; how he found 20.86 per cent. of solid matter, 16.61 of which were organic substances, and 4.25 inorganic salts. Need it be added that he was "unable to discover any trace of mineral poison"? The worthy editors of the *Pharm. Zeitung* insert a deprecatory note concerning Mr. White's advertisement. They are not responsible for the statements therein made, and they seem to have a scorching fear that the analysis will be published in other journals as from them. They told Mr. White that, notwithstanding this publication of the formula, they were opposed altogether to such remedies, and they still regard his product as a secret medicine. It does not seem to have occurred to them to adopt the very simple expedient of refusing Mr. White's advertisement.

Mother Seigel seems to have upset the Turks as well as the Germans. Several members of the Pharmaceutical Society

of Constantinople at a recent session deplored most actively the popularity of this unwholesome product, as the speakers called it. It was ultimately resolved that Akestoridès, the member who had thus described the product, should make a special study of it, and at the time should direct the attention of the editors of the papers to the risk of public safety which the advertisements of such a medicine in their pages occasioned. To a man on suspicion may be a desirable proceeding somewhat, but to hang him and try him simultaneously is a ridiculous refinement of civilisation, which even the wise men of East might dispense with.



AND

Literary Notes.

Historical Sketch of the Progress of Pharmacy in Britain. By Jacob Bell and Theophilus Redwood.

IN the form of a handsome volume of 400 pages, members and associates of the Pharmaceutical Society lately received from head-quarters a reprint of the quoted but not very generally known "Historical Sketch of Pharmacy," by Jacob Bell, which traces the salient features of the art from its separation from medical practice to—or should we say up to?—the formation of the Pharmaceutical Society in 1841; together with a new record of the pen of Dr. Redwood, narrating the progress of the Society from its foundation until the passing of the Pharmacy Act in 1868.

Mr. Bell's narrative is a very valuable treatise. It has involved a great deal of industrious research in books and pamphlets, of which perhaps not five per cent. of those looked through rewarded the seeker with fact or idea.

Mr. Bell was not only conscientious in regard to his subject, but he had the gift of presenting them in very simple style, so that what would have been very wearisome if compiled by many authors presents here a series of points of literary as well as of trade interest.

In the course of the eighteenth century the British druggist gradually became a being distinct from the apothecary, and from his earliest appearance the latter have waged war upon him. In the latter half of that century there occurred frequent brushes between the rival apothecaries always trying to shake the druggists from their dignified skirts, and yet at the same time reluctant to loose the hold on them to which they were entitled.

About 1793 the apothecaries became seriously dissatisfied in view of the "unjust and innovating usurpation of the druggists." Meetings were held resulting in the formation of the Apothecaries of the General Pharmaceutical Society of Great Britain, with an annual subscription of one guinea, *periodical meetings at the Buffalo Tavern, Broad Street*, and a Committee of 20 members—a curiously prophetic type of subsequent occurrence.

The events preceding the passing of the Pharmacy Act of 1815 were very important to druggists, and narrated by Mr. Bell. The druggists had by then acquired a very influential position, and they formed a committee, consisting of the following persons: Allen, Plough Court; Bell, Oxford Street; Cook, ampton Street; Cole, Newgate Street; Complington Street; Curtis, Old Fish Street; Hastings, Hume, Long Acre; Hudson, Haymarket; Phillips, Savory, Bond Street; Smith, Haymarket; Telford, Street. Those men were all active, substantial, and London traders in 1813, within the memory of living men, and now we believe in every case but one (and it is a pity), their businesses have either passed into the hands of strangers, or have been swept away altogether.

Druggists were strong enough to compel the apothecary to surrender apparently every attempt to interfere with business, though they could hardly have guessed how justly the words which they regarded as protective 30 years afterwards, be used against their descendants. From this time the history proceeds smoothly enough to 1841, when arose the famous contest in regard to Hawes's Bill," which proposed to put chemists and druggists under the heel of the doctors, to license them, and to give them ways to irritate and annoy them. The Association of Chemists formed in opposition to this Bill led directly to the formation of the Pharmaceutical Society, with which Dr. Bell's narrative ends and Dr. Redwood's com-

ments are very appropriate that the narrative commenced by Dr. Bell should be continued by Dr. Redwood. In the order they were engaged in another branch of literary and in the days before the institution of the Society had been associates and helpers the one of the other. The duties of Dr. Redwood as an historian are far more definitely drawn than were those of Mr. Bell; but, in the execution of the task committed to him, he has found opportunity for the exercise of his well-tryed skill in writing a record of events contemporary to many of his contemporaries, in the dispassionate tone of an impartial witness, avoiding the Scylla of offence on the one hand and the Charybdis of flattery on the other. Dr. Redwood's fairness is not only notable. He has never been an eager partisan, cannot help writing from the Society's point of view, but his account of the long contest with the United Kingdom previous to the Act of 1868 being obtained does the perfect justice to the efforts and conduct of those who, in a sense, at that time opposed to him. His sketches of departed worthies of pharmacy, whose deaths he has recorded, are kind, appreciative, and just. The following relating to old John Bell, the father of Jacob, is a good picture of the old quaker druggist:—

John Bell was not a man of great talent, and he was mistrustful even of the success he possessed. But he had a fixed determination to do what he thought was right. During his apprenticeship he had gained an insight into the difficulties which were then of frequent occurrence among druggists, and he determined to discountenance at any sacrifice. He opened a shop in Oxford Street with a small capital, and many doubts as to his success. He was making a business and keeping out of debt. He was naturally very timid, so that difficulties and slight reverses easily disconcerted and alarmed him; but nothing could induce him to swerve from adherence to the principles which guided his conduct, and which, as time passed, gained for him the confidence of the public and the success. The shop was opened in 1798. On the first day his business amounted to 10s., but in giving change he was cheated out of the money—a result which so discouraged him that at night he would sit up by his lamps until a friendly neighbour came in and consoled him. The balance of accounts at the end of the first year showed a loss, but then a ready succession of years of increasing prosperity. There was no occasion for the shop-boy, John Simmons, to find occupation at the shop in pounding a dusting-cloth in the bell-metal mortar to maintain a semblance of business activity, and at the same time to passers-by, through the ringing sound of the mortar, that he was compounded there. The shop-boy grew to be the laboratory assistant, and has since been immortalised by Hunt's water-colour drawing of the shop-boy, engraved by J. G. Murray and published by McLean, and John Bell became one of the most successful dispensing chemists in London.

Sketches of the careers of Wm. Allen, Jacob Bell, Thomas Luke Howard, Wm. Ince, J. F. Macfarlan, Fownes, and others, add a good deal of interest to this volume.

It does not fall within the province of Dr. Redwood to criticise the proceedings of the Society, or rather the successive Councils. There is no fulsome flattery in his account, but there is a natural enough assumption of wisdom, the mantle of which has certainly not been shed to the Councils of modern days. May we hope that when the Society orders the portrait of its next era, it will be accompanied with the Cromwellian motto, "Paint the warts in too"?

Health Primers and its Functions. London: David Bogue. 1s. The eighth treatise in the series of Health Primers, and edited by a group of distinguished medical men. It gives an excellent account of the structure,

functions, liability to danger, and importance of the heart as the central organ of the circulatory system. A wide circulation of these health primers will diffuse a great deal of most important information, and might be fairly expected to make a good impression on the Registrar General's death rate.

The Principal Uses of the Sixteen most important and Fourteen supplementary Homœopathic Medicines. London: E. Gould & Son.

THE title-page of this little household guide to homœopathic medicine does not name the author, but the book is said to be compiled from various standard homœopathic works, and to have reached its 14th thousand.

We neither dispute nor accept in its fulness the so-called homœopathic law, but we feel a thrill of something like pity for those 14,000 households, if such, indeed, exist, where this work is actually referred to in solemn faith. The notion of a person swallowing an aconite globule when he is stung by a wasp, of administering with due form and ceremony some tincture of china for "periodical blindness"! fooling over chilblains with pulsatilla globules, or trifling with typhus fever, Asiatic cholera, and consumption, according to the tabulated arrangement of this guide, would be comic if it were not melancholy.

One section of the book gives the symptoms of each case in which these 16 principal medicines are indicated. Moral as well as physical symptoms are taken into account, and a perusal of these is amusing at least. Anxiety, restlessness, disposition to quarrel, obstinacy, indifference, irritability, timidity, sadness, inconsistency, desire for suicide, fear of death, disgust at everything—all these characteristics are, we rejoice to find, curable, by one or other of these 16 precious medicines. But for homœopaths themselves surely none of the other remedies can approach the value of nuxvomica, which is calculated to cure the tendency to an "incapability of thinking correctly."

Tables for the Analysis of a Simple Salt. By A. Vinter, M.A. &c. London: Longmans, Green & Co. 1880.

THIS is one of the works that every teacher of chemistry considers himself bound to publish. The time appears to be approaching when there will be a separate text-book for each student. The book contains nothing new, and will probably never be used outside the author's class.

Demonstrations in Physiological and Pathological Chemistry, with a Concise Account of the Clinical Examination of the Urine. By Charles H. Ralfe, M.A., M.D., late Demonstrator of Physiological Chemistry in the Medical School of St. George's Hospital. London: David Bogue.

THIS little book is a very neat specimen of a practical scientific treatise. It provides a course of simple experiments, with connective elucidatory remarks, the result of which would be to convey to the student's mind a very good foundation of physiological chemistry. The demonstrations treat first the saccharine and amylaceous principles, the fatty principles, and the albuminous principles. Then are experimentally discussed products of decomposition, digestion, nutritive fluids, solid tissues, and urine, with a very clearly written chapter explaining exactly the processes for making a quantitative analysis of the latter.

Elements of Chemistry: Theoretical and Practical. By William Allen Miller, M.D., D.C.L., LL.D. Revised and in great part re-written by Henry E. Armstrong, Ph.D., F.R.S., &c.; and Charles E. Groves, Secretary of the Institute of Chemistry. Part III. "Organic Chemistry." Section 1. Fifth edition. London: Longmans, Green & Co.

MESSRS. LONGMANS have already been three years over this fifth edition of Miller's "Chemistry." The previous volumes, revised by Professor McLeod, discussed chemical physics and inorganic chemistry, and were included in 700 and 940 pages respectively. Now arriving at the chemistry of carbon compounds or organic chemistry, 1,040 pages are occupied in treating the first section, which comprises hydrocarbons, alcohols, ethers, aldehydes, and paraffinoid acids. We gather

from the preface that a second section of organic chemistry will complete the work.

No one will be surprised at the statement that it has been found necessary to almost re-write the work, as far as organic chemistry is concerned. Chemists are getting like the German grammarian who devoted his life to the study of Latin nouns of the third declension, but who, on his death-bed, expressed his deep regret that he had not confined his attention to the ablative case. Such a vast literature, such a multitude of observations, has been growing in respect to every section of organic chemistry, that it is becoming impossible to be truly familiar with more than a section of the science, and that section becomes yearly more limited. This fact makes the chance of simplification of the science all the more difficult. But that has to come. The glimpses that have been revealed of the wonderful order and method in which the materials of nature are arranged in homologous or isologous series of compounds, the homologous series of what we call elements, and even the transmutations of form of certain elements and isomeric bodies, clearly indicate the possibility of the discovery of some "law" or "laws" which shall bring harmony into the whole system, discordant enough at present. Why the circle-squarers, the anti-gravitationists, the perpetual-motionists, and the sun-spottists do not invade this field, with all its opportunities for ingenious theorising, is curious, but is perhaps explainable from the fact that no one can venture to form any theory, however crude, without an amount of preliminary labour in mastering the problem which far exceeds that which makes it possible to talk glibly of astronomical or mathematical difficulties.

Messrs. Armstrong and Groves have taken the opportunity, in the production of this work, of presenting, with as complete classification as possible, the facts observed in reference to carbon compounds. Their work shows that the science is rapidly assuming a connection and an interdependence which could hardly have been anticipated for it a dozen years ago, and they give the student abundant means of placing himself abreast of the day. There is no recent work from which organic chemistry can be so advantageously studied, but this one presents no royal road to an acquaintance with its mysteries. It demands most patient application, and an experimental familiarity with at least some section of it, to make the whole intelligible and fascinating. It should be added that the original design of the work, which was that it should be both a theoretical and practical treatise on chemistry, has been carefully respected by the present editors.

Alcohol Tables. By Otto Hehner, F.C.S. London: J. & A. Churchill. 1880.

THESE tables include all possible specific gravities from pure water on the one hand to absolute alcohol on the other hand. The specific gravity is given in four places of decimals, and the percentage of alcohol by weight and by volume, as well as the equivalent in proof spirit, is given in two places of decimals. These tables will prove invaluable to chemists engaged in alcohol determinations, as those usually found in chemical works are not nearly elaborate enough for practical purposes.

The History of Pharmacy.

THE Spanish pharmacist who wishes to take the highest degree attainable devotes a year to the study of analysis and another to the study of the history and literature of medicine. He can then proceed to his Doctorate of Pharmacy. The somewhat illogical demand that the Doctor in Pharmacy should be acquainted with the history and literature of medicine has not passed unchallenged. In 1847 Drs. Chiarlone and Mallaina published a history of pharmacy which passed to a second edition in 1865.*

In 1857 students of pharmacy were allowed to study the

history of their own art, and a chair of the History of Pharmacy was established. In 1871, however, a minister who almost deserves the epithets stupid, audacious, barbarous, illegal, which we have seen applied to him, suppressed the chair, or incorporated it with that of the History of Medicine, and compelled pharmaceutical candidates for the doctorate to return to the latter subject.

On July 7, 1874, Dr. Chiarlone died, in his sixtieth year, and shortly after the editors of the *Semanario Farmaceutico* or "Pharmaceutical Weekly," of Madrid, requested Dr. Mallaina, the surviving author, to prepare a third edition of "History of Pharmacy." This was published in separate sheets as a supplement to the periodical—a custom which seems general in Spain. No copy of either of these editions exists in our National Library nor in that of the Pharmaceutical Society. The first is unknown to us. The second is a handsome quarto, with broad margins, clearly printed. The history proper ends at page 736. The Appendix, of more than 200 pages, contains valuable documents illustrating the history of the colleges of "boticarios" at Valencia, Barcelona, Zaragoza, Pamplona, Madrid; reprint of the laws which govern the exercise of pharmacy; and an essay by Dr. Broeckx, of Belgium, on the limitation of the number of pharmacies in Belgium.

In the third edition the author aimed at producing a record which should convince the obtuse minister that pharmacy had a history glorious enough to be worthy of a place in the academic instruction of pharmacists. The text is therefore condensed by the omission of all data not strictly connected with pharmacy and pharmacists. It is evident that the admission of unnecessary references to physicians or medicine would have supplied the obstinate minister with an effective retort, so the last edition is meant not to replace but to supplement its predecessor. Turning to the work itself, we may fairly blame the consistent omission of references to the chapter and verse of the authorities for the statements made. This is a too common fault in works by specialists in science who are not also specialists in literature, and is one which greatly lessens the value of the work. The index, too, though much improved in the edition, bears marks of an unskilful or an unintelligent hand. But here our fault-finding must end.

The relation of pharmacy to the materia medica, the social position of pharmacists, the legal restrictions placed on the exercise of the art, might all receive historical treatment; the second, so far as France is concerned, has been treated by Grave, and the third by other writers. The present work deals essentially with eminent pharmacists, their writings and discoveries. It is a roll of the men who have practised pharmacy and have left their mark on literature. The general considerations on the progress of science and legislation, needed to make the subject intelligible, and the fitting framework of the book. The converse proposition, that the biographies of eminent pharmacists form illustrations of the subject, is equally true.

The history of pharmacy is divided by the authors into seven epochs. The first includes the so-called mythical periods of the Egyptians, Hindoos, Hebrews, Chaldeans, Phœnicians, Greeks, Romans, Celts, and Iberians. These, perhaps, the least satisfactory section of the work. The neglect of the immense recent additions to our knowledge of these periods, though easily justified from the author's polemical standpoint, makes these chapters disappointing. Many will be inclined to deny the existence of any pharmacy at these early periods, but the examinations of the monuments and words relating to the healing art among the different races of antiquity will form an interesting chapter when they are collected, and the pharmacy or medicine of the early Egyptians at least will deserve a separate chapter. The publication of the "Papyrus Ebers" in 1874 opened up almost wholly new fields of knowledge. One trace of Egyptian influence on pharmacy is visible to-day. It still bears its Egyptian name *kami* in an easily recognised form.

The second epoch includes the whole period of the Roman, and Arabian dominion, from Hippocrates to the end of the twelfth century. The first chapter deals with Hippocrates, Aristotle, and Theophrastus. Most of the remedies then used were simples, the preparation of the few compounds was shared by the cook and the physician. Theophrastus complains of the trickery of the herbalists.

* "Historia de la Farmacia," por los Doctores D. Quintin Chiarlone y D. Carlos Mallaina. 2a. edicion. Madrid, impr. de Ducazcal. 1865 [-1867]. 4o, pp. 964.

Third edition. "Historia critico-literaria de la Farmacia," por los Doctores D. Q. Chiarlone y D. C. Mallaina: compendiada y reformada, por D. Carlos Mallaina, para el estudio de los alumnos de la Facultad. 3a edicion, "Del Semanario Farmaceutico." Madrid. 1874-77. 8o, pp. 10 + 652 + 18.

tales they told him, that the *thapsia*, the *bou-nefa* of abs, when they gathered it, blistered and inflamed accs, was regarded as a fable for 20 centuries, but it entirely been shown to be strictly true. A short account of lives and teachings of each of these philosophers is but we miss the pharmaceutical details we might

second chapter describes the "School of Alexandria," gives a short account of the names borne by pharmacists and their allies among the Greeks and Romans. The most ancient writer of the period is undoubtedly Dioscorides, whose work on "Things Good for Medicine" has reached us. He was a learned physician, and accompanied the Roman army into most parts of the empire. He wrote from a purely medical point of view, and his is the first extant which attempts to enable readers to identify things referred to. There are two classes of facts which serve his purpose. One of them, description, was almost indispensable without a settled vocabulary of definite terms, and his botanical science first acquired less than two centuries ago. His best descriptions compare the leaves, flowers, and fruits of the unknown with those of well-known plants. The other class of means of identification is the history of the plant. The Scotchman would know the tree called *salix*, though he might not recognise the mountain ash, and the Arab would be the first to collect the vernacular names by which medicinal plants were known in different countries. Dioscorides preserved to us the only remaining traces of the names of some nations which played important parts in the history of Europe.

Pliny's "Natural History" was being written probably in the pen was still in the hand of Dioscorides, but the work of immense importance it is encyclopædic and not strictly medical in its aim. Pliny met his death in the eruption of Vesuvius which overwhelmed Pompeii. Many of the facts concerning the pharmacy of the period must have been lost to light by the excavations here, which should be made in any future history of pharmacy.

In the second century, the subject of the third chapter, stands forth a gigantic figure in the history of medicine, pharmacy, and science. In Kuhn's handy edition of the text, genuine, and supposititious works fill 16 thick volumes. Tinctures, decoctions, and the like are called Galenicals, and though they did not acquire this name till the progress of the chemical school of medicine in the seventeenth century brought into use a large number of medicines prepared by "chemical" means, yet that fact shows how great and enduring was Galen's influence on the progress of medicine and pharmacy. In his time a larger number of classes of preparations were in use than we have at present, but most of them were prepared by the physician and the cook, and we cannot stop even to catalogue them.

The six succeeding centuries are disposed of in 10 pages, in spite of the interest attaching to some of the writers of the period, and the new remedies they introduced, this is a concession to their importance.

The fourth chapter includes the three centuries which mark the rise and decline of Arabian predominance in politics and science. Although this would seem a particularly interesting period to a Spaniard, whose native land was the scene of so many of the actors, yet this period is treated but meagrely. This was the era of the definite rise of pharmacy as an art distinct from medicine. A multitude of new remedies, mineral and organic, were added to the materia medica, and Arabian translations and commentaries preserved for us the writings of some Greek authors, the only sources of our knowledge of the early Persian and Sanscrit medical books. The earliest origin of Hindoo medicine rests at present on a single authority. The earliest mention of it is in an Arabian work of the thirteenth century, who states that the *Alfakhr* had been translated into Arabic five centuries

ago. The fourth epoch, including the thirteenth and two following centuries, the history of New Europe begins, and the author divides his subject into the state of pharmacy, and secondly *out side* Spain and Portugal.

And Lully was one of the great men of the dark ages, and Arnaldus Villanovus, Roger Bacon, Basil Valentine, Paracelsus Magnus, Nicolaus Prepositus, and Peter of Apona,

whom Mr. Browning has celebrated in one of his most recent poems. This unlucky man peculiarly disliked the smell of milk and cheese. Clearly, then, said everyone, he could have had no mother, and the only father possible under such circumstances was the devil himself; so he was persecuted all his life, and died in the hands of the Inquisition. This anecdote is a fair exemplification of the spirit of the age.

The fifth epoch ends with the eighteenth century, and the sixth commences with the nineteenth. The use of printing had become common at the commencement of the fifth epoch, and has multiplied the labours of the historian. Probably not less than 50,000 printed books already exist on subjects directly connected with pharmacy and the materia medica, and 500 at least are printed yearly. During the sixteenth century the treasures of the East and West were pouring into Spain and Portugal, and to Spanish authors we owe the first accounts of the vegetable productions of the New World, while the Portuguese Garcia D'Orta gave us one of the first extended accounts of the drugs of Hindoostan.

Nearly two-thirds of the book before us are devoted to these two epochs, and the sections which treat on the state of pharmacy in Spain and Portugal are, perhaps, to foreign readers, the most valuable in the book. The author naturally treats the writers of his own country more fully and explicitly than others, and he has access to materials almost beyond the reach of foreigners.

The list of pharmacists and writers on pharmacy contains some startling names. Savonarola, Dante, and Bernard Palissy all deserve a place in the roll. Doctor William Turner, Dean of Bath, and John Wesley are pharmaceutical writers. Sir Humphry Davy started as an apothecary's assistant; Curtis, the editor of the *Botanical Magazine* and author of the gigantic "Flora Londinensis," was a London apothecary. George Villiers, Duke of Buckingham, once masqueraded as a quack and sold mithridate in the Strand. But we must fail in any attempt to give any proportionate view of the multitudinous books of the last three centuries which require notice in a literary history of pharmacy, and so we refer all inquirers to the work itself.

Medical Gleanings.

A MEDICAL EXAMINATION.—The examiner in pathology has a rather unsatisfactory candidate before him. "What would you do if you had to treat a case of typhoid fever?" No reply. "Suppose that complications should arise what means would you adopt?" "I should call you in consultation," was the answer. The candidate passed.—*Le Practicien*.

MR. JAMES EPFS, the head of the well-known firm of cocoa makers, has sent to the *Homœopathic Review* a cheque for 10*l.*, to be given for the best report of twenty cases treated homœopathically, the reports to be sent in before March 31, 1881. The adjudicators are to be Drs. Bayes, Hughes, Pope, and Dyce-Brown. Patients will please come forward to be experimented on.

EUCALYPTUS OIL FOR DRESSINGS.—Dr. Schulz, of Bonn, considers that eucalyptus oil offers many advantages over carbolic acid, without its inconveniences. It is a powerful antiseptic, is freely soluble in alcohol and oil, and mixes well with paraffin; its odour also is agreeable. Dressings prepared with this oil are very antiseptic. It may be employed also for spray and washing.

PHYSIOLOGICAL ACTION OF QUINIA AND CINCHONIDIA.—As the result of several experiments performed in the physiological laboratory of the University of Pennsylvania, Dr. Cerna comes to the following conclusions:—1. Quinia in minute doses increases reflex action by stimulating the sensory nerves. In large doses the reflex action is depressed by stimulation of Setschenow's centre. 2. Quinia causes at first an increase in the number of heart-beats, due to an early paralysing action on the peripheral inhibitory nerves. The later sedation of the pulse is owing to its influence on

the cardiac muscle. 3. The lowering of arterial pressure is due to the action of quinia upon the heart itself. 4. Cinchonidia depresses the reflex activity by influencing, like quinia, Setschenow's centre. 5. Cinchonidia lowers both the pulse and the blood-pressure, the causes being probably similar to those by which quinia produces its action—*Medical Times and Gazette*.

SEA-SICKNESS.—Dr. Beard, of New York, has written a treatise on sea-sickness, basing his observations on his experience. The doctrine he supports is that sea-sickness is a functional disorder of the central nervous system. He treats as absurd the supposition that the trouble lies in the stomach or digestive apparatus—the popular notion that biliousness is the main operative cause—and rejects as untenable the hypothesis of vascular derangement (cerebral anæmia). The treatment recommended consists—1. In the preliminary use of bromide of sodium in large doses. It should be taken for two or three days previous to sailing, so that the individual may become mildly bromised before reaching rough water; and this mild bromism is to be kept up during the voyage if necessary. 2. In the use of sulphate of atropia—from $\frac{1}{160}$ gr. to $\frac{1}{25}$ gr.—sufficiently often to produce great dryness of the mouth. This treatment may be used either alone or in combination with bromide. 3. The powdered citrate of caffeine, in 2 or 3 grain doses, for the sick headache. It is claimed by the author that he has by these means obtained a high degree of success.

SURGERY IN ENGLAND AND ABROAD.—Mr. Timothy Holmes, who delivered the address in surgery at the meeting of the British Medical Association at Cambridge, sketched and criticised the work of Sir William Ferguson, especially in reference to his system of "Conservative surgery and the excision of the knee and of the hip." In the course of his address he said, "British surgery is a thing to be proud of. Less philosophical, perhaps, and less dogmatic than the teachers of foreign schools, English surgeons have distinguished themselves mainly in the practical art of healing, and particularly in devising and carrying out into practice the operative measures necessary to rescue their patients from death. Hence we see that, in English hospitals, operations are performed with habitual success, which in some foreign cities are considered too dangerous to be practised; and hence, also, we see that almost all the improvements in operative surgery are of English origin. I say this in no boastful spirit. It is not due, as far as I can judge, to any national superiority—still less to any greater profundity in philosophical generalisation. Just the reverse. It is due in a great measure to the fact that we have been accustomed to practise in a healthy medium; that our forefathers and ourselves have attended to the laws of health, and never allowed our hospitals to degenerate into the condition of these of some very renowned schools of surgery."

SALICYLATES OF CALCIUM AND BISMUTH IN THE TREATMENT OF CHOLERA INFANTUM.—These remedies were first suggested by Mr. Walter Kilner, M.B., in the St. Thomas' Hospital Reports. His theory is that the diarrhoea is an effort of nature to reduce the temperature of the body when this cannot be effected by the sweat glands. A paper is published in the Proceedings of the Medical Society of the County of Kings, New York, by Alexander Hutchins, M.D., who reports the employment of calcium salicylate in 27 cases, in all of which he was successful in controlling the disease. The patients ranged in age from two months to two and a half years. In no case was any modification of the previous diet called for, save in the matter of quantity. In all cases the dose was 3 to 5 grains every two to four hours. The total quantity consumed by each patient varied between six and 18 powders. In a few cases minute doses of aconite and veratrum were given during the stay of the high temperature, and in other few, small doses of quinine were followed up after the subsidence of the disease. The calcium salicylate used was extemporaneously prepared, and was thus prescribed:—

						Gr.
Acid salicylic ..	..	..	..	..	..	xxii.
Crete præparat. . .	..	..	..	..	..	viii.
Misce bene.						

Divide in chart. No. vi. (gr. v.), vel. No. x. (gr. iii.). Sig. one every two to four hours. The powders are mixed in water, and taken after the effervescence has subsided.

Pharmaceutical Chemistry.

A POISONOUS STAR ANISE.

A. J. C. GEERTS, of Yokobama, communicates to a Dutch pharmaceutical journal an account of a poisonous species, *Illicium*. We make the following abstract from the *Bunzai Pharmaceutischer Zeitung*. This fruit has been occasionally described as poisonous, or, at least, suspicious, but hitherto has been little regarded by pharmacologists and toxicologists, and, indeed, the tree that bears it has been repeatedly described as the mother plant of star anise. It is the fruit of *Illicium religiosum*, Sieb., a Japanese tree, whose green twigs from time immemorial have decked the temples and statues of the gods, but whose fruit has been long known to be poisonous. It is so in fact, for a case has occurred in the district of Kanagawa where the use of the oil expressed from the seed in place of rape oil in the preparation of food, and the consumption of the latter, caused the death of an adult and produced repeated vomiting, a characteristic symptom in five others. The oil in question is used as a cheap illuminant and illuminating oil, but never in Japan for food. The fruit is as little used for spice, the true star anise being imported into Japan, where the *Illicium anisatum* does not grow.

The still current confusion or identification of *Illicium religiosum*, Sieb., and *I. anisatum*, Loureiro, is founded on an error of Linnaeus, who described the Japanese plant, which is first figured in Kämpfer's renowned "Amoenitates Exoticae," as *Illicium anisatum*, Linn., and as the mother plant of the true star anise. *I. anisatum*, Linn., is a synonym for *I. religiosum*, Siebold, and is quite different from the Chinese plant, which produces the star anise, and had been described by the Portuguese missionary Loureiro in his *Cochin Chincensis* under the name *Illicium anisatum*. Loureiro and Thunberg both helped to perpetuate the error, though they remarked that the fruit of the Japanese was less aromatic than the star anise of Cochinchina. Siebold was the first to point out distinctly the difference of the two species and to call attention to the poisonous character given to the fruit by Japanese writers.

Siebold's name, *Illicium religiosum*, refers to the religious uses of the twigs. In his "Flora Japonica" Siebold pointed out that even though the fruit of the Japanese species, overlooking the absence of aroma, is very like the true star anise, the true star anise tree of provinces west of Cochin presents essential differences, according to Loureiro's description; it is smaller (8 feet high), its leaves are smooth, ovate, and rounded at both ends; its flowers have more than 30 stamens. The fact noticed by Kämpfer, that the bark, but not the fruit, is aromatic, is confirmed by Siebold with reference to its use in temples, and be added that its poisonous properties are ascribed to the leaves, and they are even used as antidotes to poisoning by tropical plants, especially the dreaded *Tetrodon hispidus*. In a treatise Siebold has combated the theory of the botanist De Vriese, that *Illicium religiosum*, Sieb., is a climatic variety of *I. anisatum*, Loureiro, and he adduces the irrefragable evidence of Chinese literature to prove the latter is native neither of Japan nor of China, the fruit is imported into China from the southern border.

From his own observations Geerts remarks that, though the want of odour, the Sikimi fruit, or that of *Illicium religiosum*, is distinguished from true star anise by its characteristics. The ends of the carpels of the Japanese fruit are pointed and curved upwards, while the carpels of those of the star anise are mostly flattened and spread horizontally; those of the former are much woodier, and enclose much lighter yellowish seeds. Further, the fruit is more dumpy and boat-shaped than the rosette-like fruit of the true star anise. The taste and smell of the Japanese drug are more like camphor or bay laurel rather than anise.

Geerts has made some experiments with animals to determine the toxicological properties of the oil of the seeds, prepared by himself. The oil is thick, bright yellow, and has an undertone of green, of peculiar taste and smell, and contains a large proportion of free fatty acids, as much as 5.9 per cent. when fresh. Two grammes of the pure oil act as emetic, and 10 grammes of oil cause irritation of the stomach and bowels of dogs. No poisonous effect could be detected on a preliminary investigation.

STYRAX LIQUIDUS.

Storax is commonly purified by solution in alcohol, and evaporation to a syrupy consistence. The weight loss is 30 per cent. Dr. J. Biel, in the *Pharmaceutische Zeitung* (Bunzlau), recommends the use of coal-tar in place of alcohol. Storax dissolves more easily in benzine, the solution filters quickly, and leaves, after evaporation on a water-bath, a clear, bright brown residue, easily distinguishable from tolu balsam. The product is at least 90 per cent. of the crude drug; the residue is a dry powder mixed with fragments of wood. Storax thus treated forms a perfectly clear solution with chloroform, ether, and acetone; it is partly soluble in alcohol, leaving a residue; it is insoluble in petroleum benzine.

RAPID FERMENTATION.

USSINGAULT describes in the *Comptes Rendus* a rapid process for hastening the process of fermentation. It is well known that the rate of fermentation depends as the quantity of alcohol in the liquid increases. Ussingault has found that when the vessel, in which the sugar is going on, is placed in a water-bath at 40°, attached to an air-pump, and exhausted to nearly the boiling-point of the liquid, the alcohol vapour can be condensed in a receiver cooled by ice, and the process of fermentation is hastened. A hundred parts of sugar were completely fermented in six hours in this apparatus; under ordinary conditions 74 parts of sugar were still unchanged.

CINCHONA WINE.*

SCHACHT, Berlin, in an original paper sent to the journal mentioned below, after alluding to a prize offered by the Kaiserliche Hohen-Buchholzschene Stiftung for a recipe for preparing cinchona wine which would remain clear and bright, together with a method for determining the amount of alkaloid therein, goes on to state that, although one of the candidates for the prize, still he had for some time been a good deal of attention to the matter, and had obtained a satisfactory result. He had, however, finally kept his paper back until after the date of the competition for the candidates to send in their essays.

Preparation of the Wine.—The author found that while the wine resulting from extracting cinchona bark with ether and ordinary sherry (which, as is known, contains about 17 per cent. of absolute alcohol) sooner or later becomes cloudy on keeping, this was not the case when the wine had been previously alcoholised by adding to it 20 per cent. of alcohol of a specific gravity of 0.83. A quinine wine is made by treating 5 grammes of the best cinchona bark (Cinchona alisaya) with 80 grammes of sherry, to which is added 100 grammes of alcohol of a specific gravity of 0.83 had been added and acidulating with 20 drops of pure hydrochloric acid of a specific gravity of 1.124, the whole being digested in a water-bath at a moderate temperature and frequently shaken up. According to this extract syrupus aurantii corticis, in the proportion of 5 parts of the latter to 15 parts of extract, a quinine wine is obtained of a dark reddish-brown colour, a bitter taste, and fragrant odour, and which is quite clear and keeps so. Since cinchona wine is only given in small quantities, and never alone, the large percentage of alcohol of the kind is of no import.

Determination of the Percentage of Alkaloid in the Wine.—100 grammes of the quinine wine to be operated upon are mixed with 200 grammes of distilled water, 10 grammes of sulphuric acid, of a specific gravity of 1.115, are added, and the mixture precipitated with 150 grammes of a saturated aqueous solution of picric acid. After allowing it to settle, the precipitate is placed on a filter and washed from this with as little water as possible into a bottle of 100 c.c. capacity, 10 c.m. in diameter, 4 c.m. wide, furnished with a glass stopper and containing about 5 grammes of an aqueous solution of ammonia. The filter is rinsed out with a small quantity of ether and chloroform, and the bottle then com-

pletely filled with this mixture. The whole is then thoroughly shaken up, and the lower layer separated by means of a separatory funnel. The process of exhausting with a fresh quantity of chloroform and ether is twice repeated, and then the chloroform and ether expelled by distilling over a water-bath. The residue is dissolved in absolute alcohol, and the solution again brought into the bottle above mentioned, and therein treated with a small quantity of an aqueous solution of ammonia, petroleum ether being then added. Since the latter takes up only small quantities of quinine, the process of exhausting must be repeated six or eight times, which, however, occasions very little time or trouble. This petroleum ether, which contains the quinine, is, before putting it into a distilling-flask of about a litre capacity, first filtered through a small dry filter, in order to remove every trace of colouring matter and moisture. A too strong solution of quinine in petroleum ether must be avoided, since a solution of the kind would even during the process of distillation deposit the quinine as a gelatinous mass. It is, therefore, advisable to have as dilute a solution as possible, from which, after distilling and allowing to cool, the quinine deposits in scales and nuclei. The quinine deposited from the petroleum ether solution is dissolved in absolute alcohol, and the solution placed in a glass dish previously weighed, wherein it is allowed to evaporate spontaneously in a strong current of air. The residue is then dried at a temperature of 120° C., and weighed.

IODIDE OF IRON AND COD-LIVER OIL.

L. DRAISMA VAN VALKENBURG, complying with a request of the Rotterdam Branch of the Netherlands Society for the Development of Pharmacy, publishes in the *Archiv der Pharmacie*, xiv. Band, Heft 3, September 10, 1880, a description of his method of preparing iodide of iron and cod-liver oil. The author's recipe is—

	Parts
Iodine	1.25
Powdered iron	2.5
Cod-liver oil	98.30

The iodine is thrown into the cod-liver oil, the whole being stirred or shaken up for some days until the iodine is dissolved, and the mixture on standing shows a specific gravity of 0.932 at a temperature of 13.5°—21° C.

The cod-liver oil taken showed a specific gravity of 0.920—0.928 at a temperature of 13.5°—21° C.

This solution of iodine in cod-liver oil is now mixed with the iron in an hermetically closed vessel, the whole being shaken up for about four hours until the liquid assumes a purple-violet colour, and upon being tested with starch paste no longer shows a reaction of free iodine. This mixture is allowed to stand quiet for about 24 hours in a closed and very nearly full vessel, and then shaken up again for at least an hour, and the process repeated until, after standing quiet for another 24 hours, a test made by shaking up a small quantity of it with a mixture of a solution of starch and iodide of potassium has proved the entire absence of free iodine.

Iodide of potassium readily taking up free iodine, the addition of this salt to the solution of starch renders the starch test more delicate.

The mixture is then allowed to clear, its specific gravity taken, and an analysis made to ascertain if the required combination has been effected.

The preparation has a purple-violet colour and a specific gravity of 0.937—0.940 at 8°—13° C. It contains 1.23 per cent. of iodine and about 0.27 per cent. of iron, both chemically combined.

In preparing large quantities of the compound French iodine is preferable to English, the latter, owing to its fine state of division, causing the formation of a tenacious mass, which, when once formed, is difficult to disseminate.

In preparing iodide of iron and cod-liver oil great care must be taken that the materials and utensils used are perfectly dry, the smallest quantity of moisture being injurious to the proper formation of the compound.

The purple-violet colour of the compound is due to traces of ferric oxide.

Once properly made, and properly stored, iodide of iron and cod-liver oil keeps excellently.

ANALYSIS OF THE COMPOUND OF IODIDE OF IRON AND COD-LIVER OIL.

IN the same number of the *Archiv der Pharmacie* as above Professor von der Burg describes a method of analysis of the compound of iodide of iron and cod-liver oil.

Determination of the Iron.—Owing to the fact that pale cod-liver oil when incinerated yields a hardly perceptible very nearly imperceptible quantity of ash, in order to ascertain the amount of iron in iodide of iron and cod liver oil it is necessary to deal with at least 20 grammes of the compound. This quantity is incinerated in a platinum or porcelain dish, and the residue weighed as oxide of iron. The figures hereby obtained, multiplied by 0.7 give the percentage of iron contained in the iodide of iron cod-liver oil compound. The proper percentage is 0.27.

The incineration requires some little care in carrying out, owing to the process being very energetic at first, whereby a loss of material by spirting is liable to be sustained, which would, of course, ruin the analysis. The author recommends for this purpose the use of a platinum dish, filled to about one-sixth of its capacity with the material to be operated upon. The incineration is conducted in the stink-room or under a flue. The first thing noticed is a change in the colour of the fluid from violet to reddish brown, at which point inflammable vapours arise which are then ignited, the source of heat beneath the dish being then removed, and the ignition, which is a very lively one, allowed to go on alone. This first ignition over, the platinum dish is again heated, whereupon more inflammable vapours arise, which are likewise ignited. When at last the cod-liver oil compound has been reduced to a carbonaceous mass, the carbon is finally driven off by heating the platinum dish very strongly. The incineration may be accelerated by allowing the dish to cool from time to time, treating the carbonaceous deposit therein with a drop of water, and again heating. The residue remaining after incineration is pure oxide of iron, a fact which can be proved by dissolving it in hydrochloric acid, reducing with metallic zinc, and determining the iron in the usual way with a solution of permanganate of potash.

Determination of the Iodine.—For this purpose, 5 grammes of the cod-liver oil compound are saponified with an alcoholic solution of caustic potash (which must of course be free from iodine), by boiling in a porcelain crucible over a water-bath for two hours, whereupon the soap is carefully carbonised in the same crucible and the carbonaceous residue lixiviated until the washings cease to give an alkaline reaction. The clear liquid thus obtained is slightly acidulated with hydrochloric acid, and precipitated with a solution of a palladium salt. The precipitate can be either dried and weighed as such, or heated to reduce the salt to metallic palladium, and the latter then weighed.

When the cod-liver oil compound contains the right proportion of iodine, the 5 grammes taken for analysis yield 87 m.g. palladium iodide, or 25 m.g. palladium.

Bankruptcies and Liquidations.

J. W. DIXON, Patent Medicine Vendor, 13 Hanover Street, W.

THE adjudication in this case was made upon the petition of Messrs. Grant & Co., of 72 Turnmill Street, Clerkenwell, and the first meeting under the bankruptcy was held on the 7th inst., before Mr. Registrar Brougham. The statutory accounts were not filed, but debts amounting to about 750*l.* were proved, and the creditors appointed Mr. Arthur Roberts, of Nithsdale, Thornhill Road, Croydon, to the office of trustee, together with a committee of inspection composed of Mr. J. C. Wells, of 46 New Bond Street, Mr. G. Smith, of 187 Upper Thames Street, and Mr. G. S. Edward, of 1 Poultry. November 25 was the date fixed for the bankrupt's public examination.

F. HARGRAVE, Patent Medicine Vendor, 9 Northumberland Street, Strand.

THE debtor, trading under the style of "E. Hilton & Co.," has presented a petition for liquidation, and his affairs were

brought before the Court on the 9th instant. Mr. Brock said that he was instructed to apply for the appointment of a receiver, and for an injunction restraining further proceedings under a bill of sale. The evidence showed the debts were about 3,000*l.* (due to about 300 creditors principally for advertisements), and that the assets consisted of household and office furniture of the value about 150*l.*, besides stock-in-trade and book debt 25*l.* The debtor stated that in January, 1879, he gave to Mr. O. Deacon, of 154 Leadenhall Street, advertising agent, a bill of sale on his furniture to secure the payment of 500*l.* then due, and a further sum of 500*l.* to be expended in advertisements. Since the date of the bill of sale he had paid Mr. Deacon 900*l.*, being 50*l.* payment of the first-mentioned amount and 400*l.* of advertising account. Mr. Deacon, however, claimed a further sum of 500*l.* for advertisements, but he (the debtor) advised that the bill of sale was not a continuing security and that there were questions affecting its validity. Deacon having taken possession under his bill of sale, the Court was asked to grant an injunction against him. Registrar Brougham said that he would appoint a receiver, but he did not think that he ought to grant an injunction upon an *ex parte* application. *Prima facie* Mr. Deacon was in the position of a mortgagee for valuable consideration, and the question between the parties appeared to resolve itself into one of account. The application for an injunction might be renewed if the parties thought fit, upon notice to Mr. Deacon.

G. PARKER & CO., MINERAL WATER MANUFACTURERS, and GEORGE COLE, trading under the above designations as packing-case maker, at 628 Rotherhithe Street, and as mineral water manufacturer at Cow Lane, Rotherhithe, have filed a petition in bankruptcy, and a meeting of creditors was held on August 19.

The statement showed unsecured creditors 1,360*l.* and secured creditors 150*l.* The assets were estimated to produce 254*l.* 17*s.*, including a small balance from the sale of securities held by the secured creditors. The debtor's books had been kept in a very loose manner. No dividend was made, and it was resolved to liquidate by arrangement, a committee of inspection being nominated.

Trade Notes.

MESSRS. B. G. LENNON & CO., chemists and druggists, of Port Elizabeth, South Africa, have opened a London agency at 54 Holborn Viaduct.

**

A HEALING PINE-TAR SOAP is a new specialty of Messrs. Whitaker & Grossmith's. Its odour and character are sufficiently distinctive to make it a satisfactory novelty.

**

THE CHEMISTS' AERATED WATERS ASSOCIATION announce that there are now only 18 *l.* shares, at a premium, unallotted, and that the trade done during the summer has been highly satisfactory.

**

MR. HICKISSON announces a reduction in the price of the pedestals of the Daughter of the late John Hickiss, marking-ink. Mr. Hickiss says no ordinary person can beat him in the marking-ink trade, and we can say that he is still in the full bloom of his youth and vigour.

**

MANY chemists will welcome the new idea of Messrs. Bourne & Taylor in regard to sponges. They supply to which are affixed a dozen cheap or half-a-dozen dearer sponges, honeycomb or Turkey, free for examination and readily open to the purchaser's inspection. The prices of the sponges vary from 1*d.* to 2*s.* 6*d.*

IT IS REPORTED that the firm of Berger, Lewis & Co. (limited) are engaged on the enormous order of 3 tons of varnish for the Japanese Government, at 98s. per lb. The reports say they want it for painting up their palaces. The kado means having a spring cleaning next year to beat out of all other potentates.

* *

RIMMEL'S ALMANACS for 1881 have just been issued, adorned with portraits of half-a-dozen famous sculptors and representations of their masterpieces. His larger almanac and Comic Pocket-book for 1881 contains a series remarkably well-executed scenes from modern operettas, such as Offenbach's *Madame Favart*, Hervé's *Panurge*, Cocq's *Petite Mademoiselle*, Sullivan's *Pirates of Penzance*, &c. Need we add that both publications are redolent of the odours which cling around Mr. Rimmel's very name?

* *

THE CHEMISTS' AERATED-WATERS ASSOCIATION (Lim.) is now supplying in pint and quart champagne bottles water of the natural "Kissengen" spring at Harrogate. This water is an aperient chalybeate, and is recommended in many diseases, internal and external; of the former, such as rheumatism, gout, piles, dropsy, &c. The company, we understand, the sole control of this spring, and that which they send out is well aerated, and thus made pleasant to drink. The shareholders of the company intend to use their efforts to make this a popular water, and it soon might become.

Obituary.

EASTALL.—On August 20, 1880, Mr. Thomas Eastall, chemist and Druggist, Hereford Street, Sheffield. Aged 7 years.

FOUSTEAD.—On August 11, 1880, at Allonby, Cumberland, John Foustead, chemist and druggist, late of 94 London Road, Liverpool. Aged 40.

CLARK.—On July 17, 1880, Mr. Robert John Clark, chemist and druggist, Old Town Street, Plymouth. Aged 37 years.

CLARKE.—On July 25, 1880, Mr. Robert John Clarke, chemist and druggist, Snettisham, Norfolk. Aged 60 years.

CLIFF.—On September 12, 1880, Mr. James Cliff, Chemist and Druggist, Kirkgate, Wakefield. Aged 26 years.

CLIFFINGS.—On September 16, 1880, Mr. William Henry Cliftings, Chemist and Druggist, Royal Promenade, Clifton, Bristol. Aged 53 years.

DICKINSON.—On August 14, 1880, Mr. William Dickinson, Chemist and Druggist, Manchester Road, Southport. Aged 3 years.

HENLEY.—On September 15, 1880, Mr. Thomas Henley, Chemist and Druggist, Dover. Aged 84 years.

FLOYD.—On September 20, 1880, Mr. William Floyd, Chemist and Druggist, Smith Street, Liverpool. Aged 4 years.

GOLDSMITH.—On August 10, 1880, Mr. John Goldsmith, Chemist and Druggist, Abingdon. Aged 62 years.

JELPHS.—On June 11, 1880, at his residence, Elizabeth Street North, Melbourne, Victoria, suddenly, of heart disease, Joseph Jelphs, chemist. Aged 41 years.

LEWIS.—On July 31, 1880, at The Elms, Leominster, Mr. James Cooper Lewis, pharmaceutical chemist, Sheep Street, Worcester. Aged 50 years.

MACCOMBE.—On August 15, 1880, at Ilfracombe, Mr. George Maccombe, of Deptford, Kent, chemist, in his 61st year.

FOWLER.—On August 15, 1880, Mr. Thomas Fowler Prior, of Street, Bedford. Aged 71 years.

POWELL.—On September 7, 1880, Mr. John Powell, Pharmaceutical Chemist, Shaftesbury. Aged 66 years.

SEMPLE.—On June 20, 1880, Mr. James Semple, chemist and druggist, Port Glasgow. Aged 74 years.

SHAW.—On July 23, 1880, Mr. Edward Pearson Shaw, chemist and druggist, Market Place, Wakefield. Aged 52 years.

SILVESTER.—On June 27, 1880, Mr. Joseph Silvester, pharmaceutical chemist, Heathside, Knutsford. Aged 76 years.

STOTT.—On September 4, 1880, Mr. Charles Thomas Stott, Chemist and Druggist, Sowerby Bridge, Yorkshire. Aged 23 years.

TAYLOR.—At Bristol, in his 39th year, Thomas Taylor.

WORRIN.—On March 2, 1880, Mr. William Worrin, Chemist and Druggist, Brentwood. Aged 64 years.



[The following list has been compiled expressly for THE CHEMIST AND DRUGGIST by G. F. Redfern, Patent Agent, 4 South Street, Finsbury, London; and at Paris and Brussels.]

Applications for Letters Patent:—

Acetic Acid.—No. 3731.—B. Biggs, of Lawrence Pountney Hill, London. Improvements in and apparatus for the separation of acetic acid from crude pyroligneous acid and spirit. Dated September 18, 1880.

Bandages.—No. 3672.—J. H. de Bussy.—A communication from Dr. C. de Mooy, of Amsterdam. Improvements in bandages for surgical purposes. Dated September 10, 1880.

Bottles.—No. 3747.—H. Codd, of 58 King William Street, London. Improvements in bottles for containing aerated liquors. Dated September 15, 1880.

Carbolic Acid.—No. 3750.—G. Wischin, of Harpurhey, near Manchester. Improvements in the manufacture of carbolic acid and other analogous phenols. Dated September 15, 1880.

Extracting Prussiate of Potash.—No. 3914.—W. Brierley.—A communication from T. Richters, of Breslau, Germany. Improvements in extracting or recovering prussiate of potash, ammonia, tar, and gas from nitrogenous substances. Dated September 27, 1880.

Settings for Artificial Teeth.—No. 3588.—P. Jensen.—A communication from E. Ranzerot, of Paris. Improvements in settings for artificial teeth. Dated September 3, 1880.

Stopping Bottles.—No. 3636.—H. Mardon, of Bristol. Improved means of closing or stoppering bottles, jars, or other receptacles. Dated September 7, 1880.

Stopping Bottles.—No. 3709.—J. Neal, of Aston, Warwickshire. Certain improvements applicable to stoppering bottles for containing aerated and other liquids. Dated September 11, 1880.

Stopping Bottles.—No. 3817.—H. W. Beckett, of Dudley, Worcestershire. Improvements in corking or stoppering bottles. Dated September 21, 1880.

Sodium Chloride.—No. 3789. R. J. T., A. F., and H. L. Hawksley, all of Oldham, Lancashire. Improvements in the method of, and apparatus for, forming balls or masses of sodium chloride or other salt, and for charging chambers therewith. Dated September 18, 1880.

Surgical Splints.—No. 3755.—H. Hides, of Mortimer Street, Cavendish Square, London. Improvements in splints for surgical purposes, and in the manufacture of sheets of material suitable for forming such splints. Dated September 16, 1880.

Treating Serous Matter.—No. 3664. R. Werdermann, of Princes Street, London. Improved processes of treating serous matter to obtain nitrogenous products and albumen, which invention also comprises the purification and decoloration of albumen. Dated September 9, 1880.

Letters Patent have been issued for the following:—

Disinfecting Clothes, &c.—No. 1192.—J. H. Nelson and S. Summers, of 47 Briggate, Leeds. Improvements in apparatus for disinfecting clothes, bedding, upholstery, wearing apparel, and the like, for use in workhouses, hospitals, and other public institutions. Dated March 19, 1880.

Distilling Ammoniacal Liquor.—No. 2964.—J. Imray.—A communication from C. A. de la Martellière, of Paris. Improvements in apparatus for distilling ammoniacal liquor. Dated July 19, 1880.

Effecting Chemical Decomposition.—No. 2417.—R. S. Newall and F. S. Newall, both of the Washington Chemical Works, Newcastle-on-Tyne. Improvements in the construction and use of apparatus employed in effecting chemical decomposition. Dated June 15, 1880.

Manufacture of Magnesia.—No. 1019.—T. Imgram, of North Kensington, London. Improvements in the manufacture of magnesia. Dated March 9, 1880.

Recovering Soda Ash.—No. 1078.—A. Chapman, of the firm of Fawcett, Preston & Co., of Liverpool. Improvements in apparatus for recovering soda ash from waste liquors containing the same. Dated March 12, 1880.

Stopping Bottles.—No. 1224.—L. E. Chagniat, of Wheatshaf Lane, London. Improvements in closing or stopping bottles, jars, and other vessels made of glass or vitreous materials. Dated March 22, 1880.

Stopping Bottles.—No. 1338.—F. W. Durham, of New Barnet, Herts. Improvements in stoppers for phials, bottles, and other vessels. Dated April 1, 1880.

Stopping Bottles.—No. 1404.—A. R. Stocker, of Islington, London. Improvements in the manufacture of stoppers and caps for bottles and similar articles, and in the apparatus or means to be employed therein, parts of which improvements are also applicable to the manufacture of other articles capable of being moulded or shaped by compression. Dated April 6, 1880.

Sulphate of Ammonia.—No. 1310.—W. C. Young, of Poplar, London. Improvements in the manufacture of sulphate of ammonia. Dated March 30, 1880.



LIQUIDATIONS.

APPLEBY, GEORGE THOMAS, 2 Dagger Lane, Hull, chemist. September 29.
DEWAR, ROBERT, in co-partnership, under style of Henderson & Dewar, High Street, Gosforth, chemist and druggist, also provision merchant. September 29.

GRUMMITT, WILLIAM CLARKE, Castle Hedingham, chemist and druggist. September 17.

KNOWLES, RICHARD, Liverpool Road, Great Crosby, chemist and druggist. September 13.

SMITH, THOMAS, Waterside Chemical Works, Halifax, chemical manufacturer. October 4.

PARTNERSHIPS DISSOLVED.

GRAVETT, THOMAS, & MARTIN, HENRY STEPHEN, East Grimstead, chemists, and druggists. October 6.

HAMPSON & HARDMAN, Black Lane, Radcliffe, manufacturing chemists. May 1. Debts by Hardman.

HARPER TWELVETREES & SON, and DOBSON & Co., Coriova Works, Copperfield Road, Limehouse, blue, washing powder, general manufacturers. May 1, 1879. Debts by Thornton.

MCDUGALL BROTHERS, Port Street, Manchester, Irk Vale Chemical Works, Chadderton, Mark Lane, city London, and Millwall Docks, London, manufacturing chemists; as regards Alexander McDougall. September 30. Debts by I. S. McDougall, J. T. McDougall, and John McDougall.

SHERLOCK & ASTON, Tarporey, chemists and druggists. June 30. Debts by Aston.

THOMAS, RICHARD & JAMES, Burnley, chemists, druggists, oil merchants, and drysalers. September 29. Debts by R. Thomas.

TOMLINSON & HAYWARD, High Street and Balgait, city Lincoln, chemists and druggists. May 4. Debts by Tomlinson.

ABSTRACTS OF SPECIFICATIONS.

FOR permission to print the following we are indebted to the courtesy of the *Engineer*:—

4334. MANUFACTURING CARBON BISULPHIDE AND SULPHURIC ACID, E. C. E. and L. L. Labois.—Dated October 27, 1879. 6d.

This consists in the distillation of the pyrites to extract the greatest possible amount of sulphur till distillation ceases to yield further, and the incandescent and irreducible residues are immediately transferred to a second

apparatus connected with the first by a pipe, where they are used extract from them sulphuric acid.

4495. MEDICINAL Confection Cod-liver Oil, A. Ferguson, jun.—Dated November 4, 1879. 2d.

Cod-liver or other fish oil is combined with a quantity of cacao fruit the usual ingredients of cocoa or chocolate confections.

4471. PREPARATION OF Hair Dyes IN SMALL DOSES FOR CONVENIENCE OF TRANSPORT, A. C. H. Anderson.—Dated November 3, 1879.—(A communication.) 2d.

The dyes are made in the form of vegetable or chemical extracts essences of the smallest possible volume, and when required for use a certain quantity is mixed with water, so as to obtain the desired strength.

4523. PRESERVING ANIMAL AND VEGETABLE SUBSTANCES, DESTROYING INSECTS, &c., H. J. Allison.—Dated November 6, 1879.—(A communication.)—(Not proceeded with.) 4d.

This consists, first, of a mixture composed of oil and camphor, containing about 50 per cent. of camphor; secondly, of a mixture composed of oil and phenic acid containing about 50 per cent. of phenic acid.

4524. Water-colour PRINTING Transfer Ink FOR PRODUCING MULTIPLE COPIES OF DRAWINGS, &c., D. Gestetner.—Dated November 1879.—(Not proceeded with.) 2d.

One composition is composed of 1 part linseed oil varnish, 1 part spirit 1 part glycerine, 1 part mineral flake white, and 7 parts strong anil solution.

4634. Preserving MEAT, FISH, GAME, &c., IN A FRESH CONDITION, A. M. Clark.—Dated November 13, 1879.—(A communication.) 8d.

The solutions hitherto employed to preserve animal food, and containing at least 90 to 95 parts in 1,000 of boracic acid and borax, are by this invention improved by reducing the quantity of boracic acid and its salts to parts in 1,000 for an average period of conservation, and to 5 in 1,000 for a shorter period. For this purpose the greater part of the boracic acid, borate, or bi-borate is replaced by dextrine or cellulose, tannin, malic acid, melizitose, mycose, trehalose, starch, or other analogous matters.

4637. Calcium Sulphate, &c., W. Morgan Brown.—Dated November 1879.—(A communication.) 6d.

Caustic lime and sulphuric acid of 60° Beaumé are employed in the proportions of 16 parts of the former to 27 parts of the latter, and the sulphate of lime thus produced is used as a filling in the manufacture of paper, and as a dressing in the manufacture of cotton cloth.

4651. TREATING COWS, SHEEP, &c., A. Tyan.—Dated November 14, 1879. 4d.

A compound for curing animals suffering from Foot-and-Mouth Disease and pleuro-pneumonia, to be applied externally, consists of phosphate of zinc, carbolic acid, the blood of cows or sheep, flower of sulphur, Stockholm tar, glycerine, and benzine; and a compound for internal application consists of flower of sulphur, cow's fat or tallow, Stockholm tar, glycerine, and the ordinary decoction of marsh mallow.

4652. TREATMENT OF PLANTS, TREES, AND VEGETABLES SUFFERING FROM Blight, &c., A. Tyan.—Dated November 14, 1879. 2d.

The compound consists of carbon, guano, tobacco water, sulphur, blood, turpentine, and sugar, and when the disease occurs a quantity is dug in around the root of the plant.

4740. Soap, W. Jeyes.—Dated November 21, 1879. 2d.

Anthracine salt, naphthaline, or any similar crystallisable hydrocarbon whether produced by distillation from coal-tar, shale, or other material or in any other manner, is employed in combination with the other ingredients of soap.

4776. Extracting Oils FROM VEGETABLE OR ANIMAL SUBSTANCES, A. Sawée.—Dated November 24, 1879. 4d.

The substance to be treated is dipped into chloride of methyl liquid under pressure, and when the oils or essences have been extracted the chloride of methyl is allowed to evaporate, leaving the oils or essences behind. The chloride of methyl may then be again compressed, and used over and over again.

4765. Antiseptic Treatment of Woven Fabrics, D. S. —Dated November 22, 1879.—(A communication.) 2d.

The mulls or butter-cloths, in which butter is kept or packed for sale, are treated with a solution of salicylic acid, so as to prevent the butter from becoming rancid during a voyage.

4781. Artificial Manures and Ammoniacal Products, Bolton and J. A. Wanklyn.—Dated November 24, 1879. 4d.

Urine is evaporated so as to obtain the solids it contains, mixing soot or charcoal with the urine, and then heating the mixture about 212° Fahr. The product resulting forms the artificial ammoniacal product.

Exchange Column.

MS.—One half-penny per word, or one per word if no address be given, correspondence respecting the advertisement in the case passing through the office of THE CHEMIST AND DRUGGIST. Money for purchases deposited at the office of THE CHEMIST AND DRUGGIST for a payment of 6d. in the or less.

FOR DISPOSAL.

Dental and Surgical.

Water-hed, nearly new, full size, costing early 17l. Apply, Wyleys & Co., Coventry. Cross gutta-percha sticks, white, for tooth-roping, 5s. 6d. gross. Lockwood, Chemist, Sheffield.

Superior tooth-forceps, quite new, complete set of ten; 33s. Smith, Chemist, Widdow.

Keys, gold pluggers, excavators, stoppers, &c., very cheap; property of retired dentist; list on application. G. Tilsley, 8 George Street, Bath.

Tomes' forceps, in morocco roll, lance alars, 52s.; midwifery forceps, complete set, morocco roll, 50s.; sign-board, grinding-mill and lots forceps, 2s. 6d. 40 Sutton Street, Sheffield.

Drugs and Chemicals.

Ess. limonis super, 1880; what offers? Dr. J. G. P. Driffield.

Bismuth brown, what offers for any quantity up to 56 lbs., at per lb.? J. G. P. Driffield, Chemist, Preston.

Op. pip. (H. G. Hotchkiss), 14s. per lb. cash, by case or not less than six bottles. Watton, Norfolk.

Insect powder; true Dalmatian flowers (this year's), 2s. 6d. per lb., cash with order, stamps for sample. Lockwood, Chemist, Sheffield.

Of morphia acetates, price 10s. 6d. per oz. 10 oz., or 10s. per oz. for 50 oz. Apply Shillcock & Son, Pharmaceutical Chemists, Bromley, Kent.

Quantity of the following drugs to be sold cheap; write for price—Ol. menth. pip., B. and H.G.; ol. geranium, E.I. opt.; ls. capivi opt., three tins; ess. lemon t.; cera flav. American; genuine Natal yena; cupri sulph. opt. 191/3.

Amalg. ess. sine acid pruss.; 8 oz. ol. hyd. ess. cum acid pruss.; 8 oz. ol. geranii. opt.; 8 oz. ditto good; 8 oz. ol. santal g. opt.; 8 oz. ditto exot.; 8 oz. ol. menth. id. exot.; 4 oz. ol. coriandr.; 1 lb. lavand. tcham, three years old; cash or exchange. Wry, Chemist, Shaftesbury.

Optical.

Glasses, well-assorted lot, invoiced 17l., asked to sell at low figures about 35l., 16l. or offers. 191/8.

Apparatus.

Patent hydraulic machine, complete, in 18; what offers? 137/11.

Plugging-press, five grains, good condition, 25s. 189/19.

Cheap.—Nitrous oxide gas apparatus, complete, 2. E. Pride, Old Basford, Notts.

Med. evaporating-dish, with stove-steamer, complete. Woodcock, Magdalen Street, Widdow.

One-flask celluloid machine, cost 5l. but little used, price 2l. Swift, New Road, Spalding.

Four tin oil-cisterns, 40 gallons capacity, 7 casks, assorted, and 4 aniline dye drums, 10 gallons capacity; what offers for the lot? Parsons, Chemist, Leicester.

A first-class double perpendicular oxyhydrogen apparatus suitable for giving brilliant exhibitions to public audiences, will sell at half cost. Particulars on application, B. Waddington, Thornton, near Bradford.

Excellent self-acting medical galvanic apparatus, battery works twelve months without attention, handles and application-plates, mahogany box, lock and key, brand new, 2l. or good exchange. H. Pickering, Chemist, Leicester.

Proprietary Articles.

Nine dozen Alcock's porous plasters, at 6s. 6d. 190/19.

Three dozen 2s. 6d. Seigel's syrup for 54s.; four 4s. 6d. ditto for 12s.; 4 lbs. pot. iodid. for 41s.; carriage paid. 188/16.

Five dozen Cupiss's constitution balls; 11 packets Cooper's sheep dip; 1 Nelson's inhaler (new); 3-pint wire-covered gazogene (new); what offers? carriage paid. 188/4.

One dozen 6d. Dr. Hassall's food; two 4s. 6d. Woodhouse's elixir; two dozen and a half Wilkinson's magic drops, 4s. 6d. size; cash or exchange. Woodcock, Magdalen Street, Norwich.

Educational.

Chemical apparatus and books for Minor, cheap. Cotterell, Dover.

Microscope, in good condition, mahogany case, cost 2l. 2s., price 32s. 6d. 4 Highgate Lane, Birmingham.

Portable laboratory, fitted with shelves and drawers, in two parts, including the requisite apparatus for qualitative analysis, with over 80 chemical reagents and salts in plain and stoppered bottles, 5l. L. Jones, 13 Lansdowne Terrace, Swansea.

Fifty questions asked of a successful student at last Minor, 2s.; 30 prescriptions (catch and difficult) given to dispense at Minor during past session, 2s.; reagent labels for Minor students, showing formulae, equations, and other useful knowledge, 1s. 6d.; lot of cheap books for students; send stamp for list. Saunders, Tutor, 79 Gaisford Street, N.W.

Literature.

Pharmaceutical Journals, clean, many containing valuable receipts, 200 or 300, 4d. per dozen. 36A Dalberg Road, Brixton.

Pharmaceutical Journal, first 19 volumes, half calf, first-class condition, will sell cheap. What offers? W. H. Wilkinson, 22 Queen Street, Earlestown, Lanc.

Ramsbotham's "Midwifery," 9s.; Griffin's "Chemical Handicraft," 2s.; both clean and in good order. H., 22 Berkeley Street, Southsea.

Fullarton's "Gazetteer, England and Wales," 6 vols., mostly uncut, 29s., published 70s.; Hooper's "Physicians' Vade Mecum," 6th edition, 3s. 6d.; Billing's "Principles of Medicine," 5th edition, 1s. Throssell, Cambridge.

Judd's lithographed "Lessons for the Preliminary," with books, clean as new, 5s. 9d.; Judd's Short Cut to "Tinctures," "Ointments," "Syrups," "Atomic Weights," 1s. 6d.; "Equations," 1s.; "Medical Latin and Autograph Prescriptions," 1s. 6d.; "Materia Medica," 1s. 3d.; "Dispensing and Minor Questions," 6d.; "Manual of Natural History, Botany, &c.," 400 illustrations, 2s. 6d.; Francis's "Chemical Experiments," 4s. 6d.; Johnson "On the Teeth," illustrated, 1s. 6d.; Carpenter's "Human Physiology," 14s. "Minor," 32 Richmond Road, Barnshury, N.

"Public School Latin Grammar," 3s.; Ainsworth's "Latin Dictionary," 2s. 6d.; Gregory's "Organic Chemistry," 3s. 6d.; postage paid. Floyd, Alcester, Warwickshire.

Attfield's "Chemistry," 4th edition; Bentley's "Botany," 3rd edition, equal to new, would exchange for Squires' "Companion to Pharmacopoeia" and "Muter's "Materia Medica," or for cash. P. G. H., 15 Market Place, Kettering.

Carriage paid.—Watt's "Chemistry," 4 vols complete (17. 8s.), 10s.; Davis' "Midwifery," 2 large vols., splendid plates (4l. 4s.), 12s. 6d.; "Bell on Teeth," plates (16s.), 5s.; Quain's "Anatomy" (22s.), 5s.; Raspall's "Organic Chemistry," plates (18s.), 5s.; "Paris on Diet" (12s.), 3s.; Copland's "Practical Medicine," vols. I, II, III. (27s.), 5s.; Braad's "Materia Medica" (14s.), 4s. A. Davis, 161 Seven Sisters' Road, London, N.

Shop Fittings.

Chemist's lamp (large round), with bracket, 30 36A Dalberg Road, Brixton.

Bent-glass case, silvered back, 3 feet 2 inches long, price 2l. 4 Highgate Lane, Birmingham.

Mahogany desk with show-case in front, 30 inches long, 24 high, and 24 deep, opens with two doors. Cottle, Chemist, Watford.

Four shop carboys, suitable for window, two contain 5 quarts and two 6 quarts; what offers? Apply, Sneath, Chemist, Newark.

Will sell show-jar, 24 inches high, "Acid Tart." gilt circular scroll inside, good condition, tin cover, guinea or exchange. Horne, Chemist, Barnsley.

The entire fixtures and utensils of six chemists' shops for disposal; price 37l., 45l., 55l., 70l., 75l., 110l. Lloyd Rayner, Chemists' Shop Fitter, 333 Kingsland Road, London, N.

A nest of strong and well-made mahogany-fronted drawers, about 11 feet long and 5 feet high, containing 78 drawers, price 5l. 5s. Apply to George Leslie, Chemist, Bromhall Street, Sheffield.

Handsome upright counter-case, 51 inches long, 24½ high, 9 deep, solid mahogany, good as new, 70s.; if with carved top and lever clock, 95s.; very cheap. Jenkinson, Chemist, Duke Street, Sheffield.

For sale, cheap, 40-gallon galvanised iron cistern, extra wooden bottom, containing tap, owner having no further use for it, price 18s. 6d.; also small square 8-gallon cistern, painted, good as new, brass tap, 5s. Riding, Chemist, Heeley, Sheffield.

Invaluable for Winter.—Two oil cisterns holding about half pipe each, with brass taps (one has two to ensure oil being perfectly fine), in perfect condition, 25s. each, or will exchange for anything saleable. Gibboa, Chemist, Gooch Street, Birmingham.

To parties re-fitting or altering.—The following to be sold cheap:—Two nests of drawers; 2 nests of counter-drawers; 2 1-gallon carboys; 1 mahogany counter; 1 desk, with upright case in front; 1 bent-glass counter-case; 1 wall-case; 1 tooth-brush case; sundry 1½-pint wide-mouth and narrow-mouth bottles; sundry smaller ditto and jars. H. Bailey, Chemist, Buckhurst Hill.

A mahogany fixture as Maw's fig. 191, gold labelled and glass knobs; a 12 ft. ditto, ditto, as Maw's fig. 197; 12 ft. run drawers, as 179; a 5 ft. nest, 3 ft. 9 in. nest, 4 ft. nest, &c., &c.; 12 ft. wall case, 7l.; a 4 ft. 6 in. wall-case, plate-glass, 4l. 10s.; 4 ft. wall-case, 70s.; 8 ft. mahogany counter, 6l.; 14 ft., 12 ft., 10 ft., 8 ft., 7 ft., 6 ft., mahogany top-counters, very cheap, equal to new. E. Natali, 207 Old Street, nearly opposite Great Eastern Street.

The complete stock and fittings of a chemists' business, sold separately or together (exceptional opportunity for one to commence business), stock in good condition, and consists of the usual drugs, chemicals, patents, sundries, &c., together with show-jars, carboys, handsome dispensing-screen, and mahogany-top counters and fittings, owner (a widow) retiring. Full information of S. Atwell, Castle Cary, Somersetshire.

For disposal, through alteration, ruby-glazed lamp and bracket, fig 9 Maw's catalogue, two blue lenses; angle dental case, Treble's, 24 in. high, each angle 10 in., depth 4 in., in good condition, with specimens; counter show-case, 42 in. by 12 in., 8 in. high, in three divisions, centre with three ground-edge glass shelves, forming tooth-brush case and division, with one glass shelf, mirror-backed, bent-glass end cases, with a clean crack. Charles Weston, Ventnor.

Plate-glass counter-cases, as fig. 105, 5 ft. long, 6 ft.; 6 ft. long, 7 ft.; 8 ft. long, 9 ft.; 3 ft., as fig. 16, 40s.; 4 ft. 6 in. ditto, 50s.; 5 ft., fig. 41, 51.; 4 ft. ditto, 80s.; 3 ft., with shelf at back, 50s.; 7 ft., fig. 97, 71.; 5 ft., ditto, 51.; 6 ft., as fig. 99, 71.; fig. 96, 5 ft. long, 51.; 3 ft. and 3 ft. 6 in., as fig. 100, 60s.; 4 ft., as fig. 101, 80s.; show-stand, fig. 55, toothbrush-cases, fig. 52, 30s. and 35s.; also a number of other cases, all sizes, very cheap. E. Natali, 207 Old Street, E.C.

Cheap.—Two nests mahogany-fronted drawers, one 11 ft. long, the other 4½ ft. long, with lockers under, in tolerable condition; ebonised bent plate glass case, with sloping and flat shelf and silvered-glass back, to open as Maw's fig. 101, 3 ft. long, 16 in. wide, and 7 in. high, good as new; upright mahogany case, with silvered-glass back, 4½ ft. long, 2½ ft. high, and 6 in. wide; quantity of shop-bottles, and a little shelving, also bell-metal mortar with iron pestle. Ryder & Co., 136 Great Portland Street, W.

4 ft. and 4 ft. 6 in. dispensing screens, as fig. 163; 5 ft. and 6 ft., as fig. 164; also, 8 ft., as fig. 165; all with tablets on top, very cheap; 5 ft., as fig. 178; one each plate glass dispensing screen, 7 ft. and 6 ft. long, with a glass case at each end, with silvered glass in centre, with marble slab in front, tablets and fretwork on top, silvered glass back inside, cases very elaborate, bargains; sponge-cases, fig. 92, 51.; and fig. 93, 65s.; desk and glass case, fig. 21, 65s.; fig. 39, 45s.; a 6 ft. 4 in. upright glass case, 32 in. high, 41.; an upright case, with bent glass end, 68 in. long, 28 in. high, 41. 10s. E. Natali, 207 Old Street, E.C.

2 feet long, 3 feet long, 4 feet long, 5 feet long, 6 feet long, 8 feet long, 10 feet long, 12 feet long, 13 feet long, 15 feet long, 18 feet long, nests mahogany-fronted gold-labelled shop drawers, with lockers under shelving and cornice above; handsome mahogany wall cases, with and without cupboard doors under; quantity mahogany top counters, all lengths; quantity dispensing case screens, all lengths; 6 mahogany upright counter-cases, with desks; 4 upright counter-cases; 2 mahogany rail counter-desks; soda-water stands, as 62 and 63 Maw's; sponge-cases, as 90 and 91 Maw's; tooth-brush cases, as 53 and 72 Maw's; quantity carboys, specie jars, ointment and ext. jars, gold-labelled shop bottles, syrup bottles, store bottles, and boxes. Lloyd Rayner, 333 Kingsland Road, London, N.

Formulae.

The recipe for a very superior perfume, equal to Mona Bouquet, price 3s. "Chemist," 20 Dean Street, Westminster, Bristol.

Eau de Cologne.—Indistinguishable from Farina's, 21s. per gallon, recipe 5s. 189/39.

Blue-black ink, non-corrosive (sine iron or galls); dries rapidly; made in 5 minutes; 5s. 175/25.

Formula for good blue-black writing ink, no galls nor iron, no trouble, infinitesimal cost 10s., sample stamp. H. Pickering, Chemist, Leicester.

Cherry tooth-paste, 2s.; cold cream, 1s.; liquid cochineal, 2s.; toilet vinegar, 2s. 6d., 6s. the lot, warranted genuine. 51 Bontport Street, Barnstaple.

Zest, a celebrated Indian substitute for salt, a most appetising condiment, sure to command good sales. Free for 13 stamps from H. Lloyd, Upton-on-Severn.

Ferro-carbolic disinfectant, cost about 6d. per gallon; will bear dilution from 1 in 20 to 1 in 40; admirably adapted for stables hospitals, and sewer disinfection. Free for 13 stamps from H. Lloyd, Upton-on-Severn.

The following valuable and effectual remedies neatly copied for 1s. each, or three for 2s. 6d.:—Cough mixture, glycerine cream, chilblain liniment, toothache tincture, gonorrhoea mixture, soluble balsam of copaiba, condition powders for horses, likewise cow drinks and gripe drinks, liniment for rheumatism, neuralgic mixture, rose odonto, and varnish for pills. "Medicus," 43 Tontine Street, Folkestone.

Important Notice.—50 formulae, valuable and effectual remedies (medical, veterinary, and proprietary), all genuine and reliable; hear good profits and command an extensive sale; copied neatly in book for 7s. 6d. free; testimonials from all parts; sure to give satisfaction. N. B. H. S., Manchester, writes:—"Your formulae are beyond all praise; they are a great boon to us. Every chemist should possess a copy; they are worth pounds." "Medicus," 43 Tontine Street, Folkestone.

Indestructible marking-ink (*sine silver*), usable with any pen, requires no heating, writing unobliterated by chemicals; brilliant polish for leather (resembles "Nubian" ink), soluble essence of ginger (equal to Hay's), cherry tooth-paste (never ferments), elixir (or vinum) pepsina, toilet vinegar (equal to Rimmel's), with several others. Send stamp for list, all genuine and reliable, 5s. each (five for 11.). "Analytical Chemist," Herbert Heblethwaite, Cumberland Market, N.W.

The undermentioned reliable and well-tried formulae, at the very reasonable rate of 9d. each, or 7s. 6d. a dozen: essence of coffee, cold cream (with glycerine and borax), toilet vinegar (superior), rose and citron glycerine jelly, lime juice and glycerine (white and inseparable), "Grape" or "Fruit" saline (effervescent), ink for indiarubber stamps, rosmay hair cleaver (powder), marking ink (crimson or black), liquid cochineal, chilblain ointment (very effective), almond skin tablets, worm cakes, wild cherry pectoral (for coughs). Address, "Chemicus," 6 Mulberry Place, Edinburgh.

Fragrant foaming dentifrice (similar to Floriline); glycerine jelly (perfectly transparent); cherry tooth paste (never ferments); brilliantine (inseparable); lime-juice and glycerine (inseparable and perfectly white); splendid black ink (never corrodes steel pens); marking ink (black or red); effervescent fruit saline (resembles Eno's); pill-coating (pearly white, no mucilage or mastic used); magic neuralgic drops (never-failing remedy); quinine and iron tonic (resembles Pepper's); excellent chilblain paint; cough mixture (clear red, effective, and agreeable); with many others; send stamp for list. The toilet articles are identical with those prepared by a renowned West-end perfumer; the others are equally good; all inexpensive to prepare; 5s. each (five for 11.); inquiry letters must be prepaid. "Analyst," care of Mr. Wames, 79 Gaisford Street, N.W.

Miscellaneous.

New pepper-mill, gas-meter, and two pendant exchange drugs or patents. J. Davies, 1 Aston Street, Shifnal.

Fullwood's annatto, a few dozen quarts; pints for sale, cheap; also small part Pott's cattle spice. A. B., 78 Laurel Grove, Penryn.

A rich mellow-toned violin, Cremona copy, fine condition, case and bow, take approval. "Dentist," Withington Street, Pendleton, Manchester.

What offers? 9 gross ½ oz. pink pill, 12 gross 1 oz. ditto, 2 gross each 2 oz. 3 oz. willow. Harvey, Market Place, Manchester.

3 cwt. creta precip., a little dirty; 1 cwt. baurant; gross paraffin lamps, slightly soiled; no reasonable offer refused. Newham & Co., Sheffield.

Superior rubber stamps, cheap for cash, exchange for good chemist's literature, anything saleable. White, Litcham, Sw. ham.

Roller skates (Perry's patent), 10½ inches, 15s., had only a little use on a carpet, in good condition, capital exercise on asphaltic path, price 7s. 6d. Walter Maish, Coth. Bristol.

Breech-loading gun, first-class double cent fire, with laminated steel barrels, reinforcing locks, capital shooter, and unsold 31. 10s.; also powerful shooting air-gun, shot and ball, with all appliances, guaranteed perfect, 50s. Halford, Chemist, H. ley, Birmingham.

WANTED.

Two bottle-lenses for lamp. 188/28.

Set tooth-forceps. S., 82 King's Road, S.W.

Four 1-gallon pear-shaped carboys. T. Hirst, 22 Market Street, Colne.

Hooper's "Physicians' Vaide Mecum," second hand copy. 60/6.

Bentley and Trimen's "Medicinal Plants," 10s. Sawyer, 61 Cheapside.

A second-hand chemist's lamp, be agom. 88 Silchester Road, Notting Hill.

Second-hand water-bed in good condition, and lowest price to Miller, Chemist, Ipswich.

Solled trusses, very cheap; send sizes 6/6, 189/14.

Barrow Evans' restorer, 3 doz. and up. 190/19.

Will's "Materia Medica," Will's "Pharmacopoeia," 1867. F. Holmes, 100 Strand, Lutterworth.

Quinine, cash; also surplus drugs in exchange for others; list. Maitland, Stone, Devon.

Small microscope, with mounted objects, articulators and lowest price to P. 36 Elgin Crescent, Notting Hill.

Will's "Materia Medica," "Metric System" books adapted for minor student, editions, cheap. Lawrence, 12 Lab. Grove, Wavertree, Liverpool.

First-class dental-chair, in exchange for fore costing 45 guineas three years difference in value could be paid 66/6.

Pereira's "Materia Medica," "British Pharmacopoeia," and Beasley's "Book of Preparations," all latest editions. Hall, 10, St. Paul's Churchyard, Manchester.

No. 1 Bracher's mixer; will give in exchange No. 9 composition-mortar or No. 3 gas furnace and cash, or cheap 1 only. Marshall, Montgomery.

The set of Will's books, Bentley's "Pharmacopoeia," and "British Pharmacopoeia." J. V. Mainprize, 73 Newborough, Scarborough.

Address Wanted.

Edward J. Flowerday, Schoolmaster's A. Devereux, Beaconsfield.

Information Wanted.

Citrate of Magnesia.—Instruction required the mode of preparation of this salt one who is thoroughly efficient, giving full particulars as to experimental terms required, J. B., 73 New Bridge Street, Stockport.

Trade Report.

increase in the volume of British trade, as indicated by the official returns, continues to exhibit itself in a decided degree, and this is the more notable now, as it was in September, 1879, that the revival was first manifested. The value of British imports has advanced 23½ per cent. in September, 1880, over the amount reached in September, 1879, namely, from 27,750,000*l.* to 34,250,000*l.* Comparing the same periods the exports show an improvement of 19 per cent., or 20,027,347*l.* in September, 1880, against 16,822,242*l.* in September, 1879. The following are the principal figures relating to the exports of chemicals:—

	Sept., 1879.	Sept., 1880.
Alkali	cwt. 614,769	564,975
Alkali	£ 189,644	199,121
Other chemicals	£ 169,184	212,343

It will be seen that the actual quantity of alkali exported is less than the exceptional quantity last year, but as 10,000*l.* is charged for 50,000 cwt. less, it is probable that the trade is decidedly more satisfactory to manufacturers. The increase in the value of the exports of chemical products generally is a very remarkable one.

The demand for heavy chemicals was quiet through September, but the entire absence of speculative business is sufficient to account for any slight diminution in the volume of trade. Prices have been very steady, and since the beginning of the present month have assumed a decidedly firmer tone, due to the gradually increasing proportion of makers who are well sold forward. The influx of speculation just now would probably have a considerable momentary effect, but it is very satisfactory to observe that the present position of the market represents the result of exclusively legitimate business between makers and consumers.

Tartaric acid is being bought rather readily at 2*s.*; tartaric acid steady at 1*s.* 7*d.* for English and 1*s.* 6½*d.* for foreign sales. Cream of tartar has experienced a rise from 115*s.* 9*s.*, and seems now steady.

Eaching powder has been dull, and is to be bought at 10*d.* delivered in London. The firmness in soda has held the prices of crystals and bicarbonate to be rather less than those of a month ago. There is no change in potash and ammonia salts.

Camphor is still quoted at 63*s.* by refiners, but second-hand camphor is to be bought for less. Camphor remains at last at its quotations. Mercury is fractionally lower. Glycerine has further advanced. Makers' prices for calcined soda have been reduced in consequence of German competition.

Sulphuric acid is quoted at 6½*d.*, but speculation in this article has quite died out. Those who purchased when the sudden advance occurred have become disgusted with their property, and have been willing to take anything in the way of a price, or have sometimes dispensed with that condition. Sales have of course tended to depress the market. There is still some talk of a re-combination, but it attracts little attention.

The last bark sales exhibited a notable relaxation of the business of buyers, which has so often been the characteristic of this market. It would seem that the American demand for quinine has considerably slackened of late, largely due to their finding themselves for the moment overstocked, autumn having passed without the occurrence of any epidemic. Makers are consequently more ready to take orders, and a fall of 8*d.* per oz. in the alkaloid has resulted. The decline in the value of barks is difficult to estimate, as the varying quality of different consignments of the same mark necessarily occasions variations of price in the most steady market, and further, the prices are generally those at which holders estimate their property, and there is often a very wide margin indeed between the highest bid and the bought-in price. It may, however, be reckoned that a general fall of from 6*d.* to 1*s.* in the market price of cinchonas is the result of the month's operations.

The assurance of an opium famine is still maintained, but buyers persistently refuse to take much notice of it. There are, however, a slightly accentuated firmness in the tone of the market, but quotations here have not appreciably advanced. It is likely, too, that a fair proportion of the whole-

sale houses have quietly stocked themselves, and this fact would considerably break the violence of any panic that might occur. The small yield of last season must, however, be borne in mind, and we still look for some advance on present rates before the new year. Five cases of Persian opium were sold at last auction without reserve at 17*s.* 3*d.*

The produce markets generally have experienced a dull time of it during the past month, and drugs have been no exception. The changes of value are not important.

Aloes are a little higher for Cape of good quality. Balsam of copaiba is a shade easier than it has been for some time, and balsam of Peru is declining. Calumba root still brings extraordinary prices, though it is a trifle easier than it was a month ago. Really sound bright root, that was worth 40*s.* to 50*s.* per cwt., now sells at 6*l.* to 7*l.* A moderate demand on a limited stock has occasioned a renewed advance in cubebs. Crude camphor has been bought rather more readily during the month. Cardamoms are firm. Camomile flowers are abundant this year, and of good quality. Cloves are bringing higher prices, in the absence of any important arrivals. Dragon's blood has been taken for export, and has secured higher rates.

Buchu leaves are still high, and the better sorts of Tinnevely senna have become a good deal dearer. Rose leaves are very high this season.

Essential oil of aniseed is higher, and English lavender has never been so dear as now. Foreign oil is also quoted higher. American peppermint is reported likely to be higher.

In gums extreme prices are paid for ammoniacum, and Benjamin is somewhat scarce and firm. Copal is also getting dearer, and gamboge is held firmly at present rates. Shellac has been flat all the month, and a considerable decline is marked. The shipments hitherwards, however, are reported to have been considerably diminished, and as this market is a favourite one for speculators, a renewed spring in it would not surprise us.

The new crop of olive oil is due in November, and there seems to be every probability of abundance and good quality. There is a momentary firmness in the London market, but lower prices are fully expected before the new year. Linseed oil has become very firm, and has advanced about 30*s.* in the month. Rape is quiet. Cod and sperm oils are also scarce and dearer. A rapid advance has occurred in turpentine, running it up from 26*s.* to nearly 31*s.* Petroleum has also been largely dealt in, an advance of 1½*d.* being established, while quotations for November-December are 10*d.* to 10½*d.*

The following table shows the stocks of certain drugs in the Port of London on September 30.

	1880	1879		1880	1879
Aloes	1,998	984	Gum (cont.)—		
"	6	11	Damar	4,225	1,249
"	147	670	Gamboge	6	12
Aniseed, Star	368	555	Gamboge	111	116
Arrowroot	15,253	13,329	Guaiaacum	41	93
"	13,509	15,977	Kino	36	33
Balsam	97	35	Kowrie	612	583
Bark, Medicinal	968	440	Mastic	126	140
"	21,922	17,581	Myrrh, E.I.	163	146
Borax	441	574	Olibanum	2,751	1,966
Bees' Wax	813	646	Sandarac	75	446
"	2,387	3,052	Senegal	15	48
"	227	3	Tragacanth	2,446	1,839
Wax, Jap.veg.	9,560	3,147	Ipecac.	151	173
Camphor	7,549	6,147	Jalap	252	377
Cardamoms	256	312	Nux Vomica	691	2,142
Coccoloba	903	1,613	Oil—		
Colombo root	358	532	Castor	167	—
Cream Tartar	138	121	"	7,992	4,944
Cubebs	93	94	Palm	755	418
Dragonsblood	159	66	Coccoloba	5,973	3,644
Galls, E.I.	3,405	1,332	Olive	546	962
M'terranean	575	468	Aniseed	243	55
			Cassia	327	276
			Opium	958	902
			Rhubarb	914	1,327
			Sassaaparilla	523	433
			Senna	1,649	1,501
Gum—			Shellac—		
Ammoniac	377	461	Orange	20,181	23,192
Animi & Copal	2,316	3,974	Garnet	14,691	12,562
Arabic, Barbary	1,576	1,518	Button	2,286	2,716
Turkey	2,197	2,576	Turmeric	2,916	1,908
E.I.	2,403	1,462	Vermilion	119	122
Assafoetida	279	467			
Benjamin	2,276	916			

Monthly Price Current.

The prices quoted in the following list are those actually obtained in Mincing Lane for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.

CHEMICALS.		1880.		1879.	
ACIDS—		s. d.	s. d.	s. d.	s. d.
Acetic	per lb.	0 3½	to 0 0	0 2½	to 0 3½
pure		0 5	.. 0 9	0 0	.. 0 0
glacial		0 11	.. 0 11½	0 0	.. 0 0
Benzoic Sublimate		6 9	.. 0 0	0 0	.. 0 0
Ex. Gum.	per oz.	0 9	.. 0 0	0 0	.. 0 0
Citric		2 0	.. 0 0	1 7	.. 0 0
Gallic		4 3	.. 0 0	0 0	.. 0 0
Hydrochlor.	per cwt.	5 0	.. 7 0	4 0	.. 7 0
Nitric	per lb.	0 2½	.. 0 4½	0 4½	.. 0 0
Oxalic		0 4	.. 0 0	0 4	.. 0 4½
Sulphuric		0 0½	.. 0 1	0 0½	.. 0 1
Salicylic		8 0	.. 8 6	0 0	.. 0 0
Tannic		1 8	.. 2 8	0 0	.. 0 0
Tartaric crystal.		1 7½	.. 0 0	1 3½	.. 1 4
powdered		1 7½	.. 0 0	1 7½	.. 0 0
ANTIMONY ore	per ton	0 0	.. 0 0	240 0	.. 300 0
crude ..	per cwt.	41 6	.. 0 0	36 0	.. 0 0
star		62 0	.. 65 0	61 0	.. 65 0
ARSENIC, lump		23 6	.. 24 6	24 0	.. 0 0
powder		10 6	.. 11 0	10 3	.. 10 6
BRIMSTONE, rough	per ton	125 0	.. 0 0	105 0	.. 110 0
roll ..	per cwt.	8 9	.. 9 6	9 6	.. 10 3
flour		10 0	.. 12 0	10 6	.. 12 3
GLYCERINE, German		57 0	.. 70 0	0 0	.. 0 0
crude brown		33 0	.. 45 0	0 0	.. 0 0
IODINE, dry	per oz.	0 6½	.. 0 6½	1 2	.. 0 0
MAGNESIA, calcined	per lb.	1 0	.. 1 6	1 10	.. 0 0
Pond, Hwds.		5 0	.. 0 0	0 0	.. 0 0
MERCURY	per bottle	137 6	.. 0 0	125 0	.. 0 0
MINIUM, red	per cwt.	17 0	.. 17 6	15 3	.. 16 0
orange ..		29 0	.. 0 0	28 6	.. 0 0
PRECIPITATE, red ..	per lb.	3 2	.. 0 0	3 2	.. 0 0
white ..		3 1	.. 0 0	3 1	.. 0 0
PRUSSIAN BLUE ..		0 0	.. 0 0	0 0	.. 0 0
SANTONINE		23 0	.. 0 0	0 0	.. 0 0
SALICINE		13 6	.. 0 0	0 0	.. 0 0
THYMOL		27 0	.. 0 0	0 0	.. 0 0
SALTS—					
Alum	per ton	170 0	.. 125 0	122 6	.. 125 0
powder		147 6	.. 0 0	140 0	.. 0 0
Ammonia:					
Carbonate	per lb.	0 6½	.. 0 6½	0 6½	.. 0 6½
Hydrochlorate, crude,					
white	per ton	580 0	.. 780 0	600 0	.. 720 0
Sulphate	per ton	340 0	.. 400 0	390 0	.. 400 0
Argol, Cape	per cwt.	73 0	.. 95 0	75 0	.. 80 0
Red		70 0	.. 79 0	50 0	.. 70 0
Oporto, red.		36 0	.. 36 6	31 0	.. 32 0
Sioli.		0 0	.. 0 0	60 0	.. 65 0
Bleaching powd.		5 0	.. 0 0	5 9	.. 6 0
Borax, British refnd.		57 0	.. 63 0	35 0	.. 36 0
Calomel	per lb.	2 9	.. 0 0	2 9	.. 0 0
Chloral hydrate, Saame's ..		4 2	.. 4 4	0 0	.. 0 0
Liebreich's ..		5 6	.. 6 0	0 0	.. 0 0
Copper:					
Sulphate	per cwt.	20 6	.. 21 0	18 0	.. 0 0
Copperas, green.	per ton	45 0	.. 50 0	50 0	.. 55 0
Corrosive Sublimate p. lb.		2 3	.. 0 0	2 2	.. 0 0
Cr. Tartar, French, p. cwt.		119 0	.. 0 0	102 0	.. 103 0
brown ..		96 0	.. 100 0	80 0	.. 82 6
Epsom Salts		4 6	.. 5 0	4 6	.. 6 0
Glauber Salts		3 0	.. 5 0	3 0	.. 4 6
Magnesia: Carbonate ..		42 6	.. 0 0	42 6	.. 0 0
Pond, Hwds.		74 0	.. 0 0	0 0	.. 0 0
Morphia Murias ..		11 6	.. 0 0	8 0	.. 0 0
Potash:					
Bichromate	per lb.	0 6	.. 0 6½	0 5	.. 0 0
Carbonate:					
Potashes, Canada, 1st					
sort	per cwt.	26 6	.. 27 0	22 0	.. 0 0
Pearlshashes, Canada, 1st ..					
sort	per cwt.	30 0	.. 0 0	35 0	.. 0 0
Chlorate	per lb.	0 6½	.. 0 0	0 6½	.. 0 0
Prussiate		0 10½	.. 0 11	0 11	.. 0 11½
red		1 9	.. 1 10½	1 9	.. 1 10½
Tartrate (see Argol and Cream of Tartar)					
Potassium:					
Bromide		1 7	.. 1 8	1 8	.. 0 0
Chloride	per cwt.	7 0	.. 7 3	0 0	.. 0 0
Iodide	per lb.	10 6	.. 11 0	17 0	.. 17 6
Quinine:					
Sulphate, British, in ..					
bottles	per oz.	12 0	.. 0 0	12 3	.. 12 6
Sulphate, French ..		12 0	.. 12 3	12 3	.. 0 0
Sulphate, German ..		11 10	.. 12 0	0 0	.. 0 0
Sal Acetos.	per lb.	0 6½	.. 0 7	0 6	.. 0 6½
Sal Ammoniac, Brit. cwt.		44 0	.. 45 0	44 0	.. 45 0

		1880.		1879.	
Saltpetre:		s. d.	s. d.	s. d.	s. d.
Bengal, 6 per cent. or		22 3	to 22 6	19 1	to 19
Bengal, over 6 per cent.					
per cwt.		21 3	.. 22 0	18 0	.. 18
British, refined ..		21 0	.. 28 0	0 0	.. 0
Soda: Bicarbonate ..		10 9	.. 0 0	9 0	.. 9
Hwds.		45 0	.. 0 0	0 0	.. 0
Carbonate:					
Soda Ash .. per deg.		0 1½	.. 0 0	0 1½	.. 0
Soda Crystals per ton		73 9	.. 0 0	62 6	.. 0
Caustic		10 6	.. 11 0	9 3	.. 9
Hyposulphite, per cwt.		8 0	.. 0 0	0 0	.. 0
Nitrate		14 6	.. 0 0	16 6	.. 17
Zinc Sulphate ..		19 0	.. 12 0	0 0	.. 0
SUGAR OF LEAD, Whitecwt.		37 6	.. 38 0	37 6	.. 38
Brown, cwt.		30 0	.. 0 0	26 6	.. 0
VERDIGRIS	per lb.	0 10½	.. 1 2	1 1	.. 1
VERMILION, English ..		2 8	.. 0 0	2 2	.. 0
China ..		2 0	.. 2 2	1 10	.. 2
DRUGS.					
ALOES, Hepato	per cwt.	60 0	.. 150 0	70 0	.. 160
Socotrine ..		60 0	.. 190 0	100 0	.. 200
Cape, good.		44 0	.. 47 0	48 0	.. 50
Inferior		37 6	.. 43 6	37 0	.. 47
Barbadoes ..		50 0	.. 190 0	70 0	.. 240
AMBERGRIS, grey	oz.	65 0	.. 90 0	65 0	.. 80
BALSAM—					
Canada	per lb.	0 11	.. 1 0	1 0	.. 1
Capivi		2 3	.. 3 0	1 5	.. 1
Peru		7 9	.. 8 0	5 9	.. 6
Tolu		2 6	.. 2 7	3 0	.. 3
BARKS—					
Canela alba.	per cwt.	12 0	.. 18 0	17 0	.. 35
Cascarilla		17 0	.. 21 0	17 0	.. 24
CINCHONA—					
Cailsaya, good and fine per lb.		7 6	.. 9 0	7 6	.. 12
medium		3 0	.. 4 6	3 6	.. 5
N. Granad., fair to fine ..		5 0	.. 6 0	0 0	.. 0
ord. to mid.		2 0	.. 4 6	0 0	.. 0
Columbian, fine		3 11	.. 4 11	4 0	.. 6
ord. to fair ..		1 0	.. 2 0	1 6	.. 3
Carthagena, good		4 4	.. 4 11	2 8	.. 4
E. I. mossed		4 6	.. 8 0	0 0	.. 0
Ceylon, crown		6 0	.. 9 0	4 0	.. 0
red		1 6	.. 4 0	0 0	.. 0
Darjeeling, red fine.		3 0	.. 3 6	3 0	.. 3
BUCHU LEAVES		0 2	.. 0 11	0 13	.. 1
CAMPHOR, China .. per cwt.		75 0	.. 77 6	80 0	.. 81
Japan ..		77 6	.. 80 0	82 6	.. 0
Refin. Eng. per lb.		1 3	.. 0 0	1 3	.. 0
CANTHARIDES, China ..		1 7	.. 1 8	1 7	.. 1
Russian ..		3 7	.. 3 11	4 3	.. 10
CHAMOMILE FLOWERS p. cwt.		40 0	.. 80 0	40 0	.. 10
CASTOREUM	per lb.	12 0	.. 26 0	15 0	.. 2
DRAGON'S BLOOD, lp. p. cwt.		100 0	.. 310 0	93 0	.. 26
FRUITS AND SEEDS (see also Seeds and Spices)					
Anise, China Star per cwt.		80 0	.. 90 0	90 0	.. 9
Spanish, &c.		30 0	.. 33 0	35 0	.. 4
Beans, Tonquin.	per lb.	4 6	.. 7 0	4 6	.. 0
Cardamoms, Malabar ..					
good		6 6	.. 9 3	8 6	.. 0
inferior		3 0	.. 6 0	3 9	.. 0
Aleppy		2 9	.. 7 4	4 6	.. 0
Madras		2 6	.. 5 6	2 0	.. 0
Ceylon		3 0	.. 4 0	3 6	.. 0
Cassia Fistula	per cwt.	14 0	.. 25 0	33 0	.. 0
Cocculus Indicus ..		7 6	.. 8 0	7 6	.. 0
Colocynthis, apple ..	per lb.	1 3	.. 1 6	1 3	.. 0
Croton Seeds	per cwt.	45 0	.. 50 0	28 0	.. 0
Cubebs		65 0	.. 85 0	45 0	.. 0
Cumin		30 0	.. 35 0	20 0	.. 0
Fenugreek		9 0	.. 11 0	0 0	.. 0
Guinea Grains ..		52 6	.. 60 0	0 0	.. 0
Juniper Berries ..		0 0	.. 0 0	3 6	.. 0
Nux Vomica		9 0	.. 11 0	6 6	.. 0
Tamarinds, East India, ..		7 0	.. 12 0	11 0	.. 0
West India ..		10 6	.. 14 6	11 0	.. 0
Vanilla, large	per lb.	15 0	.. 21 0	33 0	.. 0
inferior ..		8 0	.. 14 6	13 0	.. 0
GINGER, Preserved ..		0 5½	.. 0 6½	0 5	.. 0
HONEY, Chili	per cwt.	34 0	.. 60 0	30 0	.. 0
Jamaica ..		35 0	.. 40 0	30 0	.. 0
IPERCACUANHA	per lb.	4 4	.. 5 6	4 3	.. 0
ISINGLASS, Brazil.		2 3	.. 5 1	2 6	.. 3
Tongue sort ..		2 9	.. 5 6	2 9	.. 8
East India ..		1 4	.. 4 10	0 9	.. 6
West India ..		3 0	.. 4 0	2 10	.. 6
Russ. long staple ..		6 0	.. 10 6	6 0	.. 6
inferior ..		0 0	.. 0 0	0 0	.. 0
Simovia ..		2 3	.. 2 6	1 6	.. 6
JALAP, good		0 11	.. 1 2	0 10	.. 10
infer. & stems ..		0 9	.. 0 10	0 7½	.. 10
LEMON JUICE	per degree	0 0½	.. 0 1½	0 0½	.. 1½
LIME JUICE	per gall.	1 4	.. 1 9	1 3	.. 5
Liquorice, Spanish per cwt.		30 0	.. 36 0	30 0	.. 0
Liquorice Root ..		16 6	.. 25 0	30 0	.. 0
MANNA, flaky	per lb.	0 0	.. 0 0	3 6	.. 0
MUSK, Pod.	per oz.	10 0	.. 56 0	10 0	.. 0
Grain		35 0	.. 68 0	40 0	.. 0
OILS (see also separate list)					
Almond, expressed per lb.		1 5	.. 0 0	1 9	.. 0 5
Castor, 1st pale		0 3½	.. 0 4½	0 4½	.. 0 ½
second		0 3½	.. 0 3½	0 3	.. 0 0
Cod Liver	per gall.	2 4	.. 4 0	3 0	.. 0 2½
Croton	per oz.	0 0	.. 0 0	0 2½	.. 0

1880.				1879.				1880.				1879.			
	s.	d.		s.	d.			£	s.			£	s.		
Essential Oils:															
Almond.....per lb.	18	0	to 22	0	0	to 0	0	0	0	to 0	0	0	0	to 0	0
Anise-seed, star.....	7	9	0	0	0	0	0	30	0	0	0	26	10	0	0
" German.....	12	0	0	0	0	0	0	28	0	0	0	23	0	0	0
Bergamot.....	8	0	10	0	0	0	0	27	0	0	0	22	0	0	0
Cajeput.....per bottle	4	0	0	0	0	0	0	20	0	22	0	18	0	19	0
Caraway.....per lb.	3	9	0	0	0	0	0	0	0	0	0	0	0	0	0
Cassia.....	3	9	0	0	0	0	0	0	0	0	0	0	0	0	0
Cinnamon.....per oz.	4	6	0	0	0	0	0	0	0	0	0	0	0	0	0
Cinnamon-leaf.....	0	3	0	0	0	0	0	43	0	0	0	41	0	42	0
Citronelle.....	0	3 1/2	0	4	0	3 1/2	0	40	0	42	0	0	0	0	0
Clove.....	6	6	7	6	7	0	0	0	0	0	0	45	0	0	0
Eavender Exot.....per lb.	1	6	7	3	1	8	7	0	0	0	0	44	0	41	10
Mitcham.....	120	0	0	0	0	0	0	42	0	0	0	38	0	40	0
Lemon.....	6	0	8	6	4	6	11	32	10	33	10	35	15	36	0
Lemon-grass.....per oz.	0	2 1/2	0	0	0	2 1/2	0	34	0	0	0	37	0	0	0
Neroli.....	7	0	10	3	6	0	9	0	0	0	0	0	0	0	0
Nutmeg.....	0	4	0	5	0	2	0	0	0	0	0	0	0	0	0
Orange.....per lb.	7	6	8	0	5	0	7	0	0	0	0	0	0	0	0
Sto of Roses.....per oz.	10	0	24	0	18	0	30	0	0	0	0	0	0	0	0
Satchouli.....	2	4	3	10	1	6	3	0	0	0	0	0	0	0	0
Peppermint:															
American.....per lb.	13	0	0	0	7	6	9	0	0	0	0	0	0	0	0
(H. G. Hotchkiss),	14	6	15	0	0	0	0	0	0	0	0	0	0	0	0
English.....	30	0	0	0	21	0	23	0	0	0	0	0	0	0	0
German.....	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rosemary.....	1	6	2	11	2	0	2	6	0	0	0	0	0	0	0
Sassafras.....	2	2	0	0	2	0	2	3	0	0	0	28	0	28	15
Spearmint.....	13	0	0	0	8	0	9	0	44	10	35	10	37	0	0
Thyme.....	1	8	4	2	0	0	0	0	40	0	80	0	33	0	0
Ice, expressed.....per oz.	0	0	0	0	0	5	0	6	0	0	0	0	0	0	0
M, Turkey.....per lb.	22	0	24	0	17	0	19	0	31	0	21	0	0	0	0
inferior.....	18	0	21	0	12	6	15	0	0	0	0	0	0	0	0
SIA (bitter wood) per ton	100	0	110	0	100	0	130	0	0 3/4	0 9/10	0 6 1/2	0 7 1/2	0 7 1/2	0 7 1/2	0 7 1/2
BARK, China, good and															
s.....per lb.	2	9	4	5	2	6	3	0	38	0	62	6	72	0	0
fid, to fair.....	1	6	2	8	1	6	2	4	0	0	0	0	0	0	0
Ordinary.....	0	8	1	5	0	6	1	5	25	0	0	0	0	0	0
S—Calumb.....per cwt.	110	0	122	6	27	0	40	0	14	0	20	14	0	22	0
na.....	23	0	24	0	28	0	30	0	34	0	39	0	44	0	0
retta.....per lb.	0	0	0	0	0	2 1/2	0	4	60	0	60	0	68	0	0
langal.....per cwt.	21	0	22	6	23	0	0	0	53	6	51	0	0	0	0
otian.....	20	0	0	0	16	0	20	0	53	3	52	0	0	0	0
is.....	26	0	37	6	20	0	45	0	54	6	53	6	0	0	0
itory.....	0	0	0	0	70	0	76	0	50	6	48	6	50	0	0
k.....per lb.	0	8	1	3	1	0	1	4	12	0	0	0	0	0	0
k.....	0	2 1/2	0	3	0	2	0	5	5	0	10	0	15	0	0
ake.....	3	0	0	0	2	1	2	3	54	6	50	0	51	0	0
ake.....	1	5	1	6	0	0	0	0	0	0	0	0	0	0	0
RON, Valencia.....	42	0	45	0	21	0	42	0	36	0	44	0	45	0	0
F.....per cwt.	100	0	160	0	100	0	120	0	28	0	28	0	36	0	0
APARILLA, Lima per lb.	0	5	0	6	0	4	0	6	49	0	57	0	58	0	0
yaquill.....	1	3	1	5	1	1	1	4	1	1	1	0	3	0	0
nduras.....	1	3	1	11	1	1	2	0	9	11	0	11	2	1	0
maica.....	1	4	1	9	1	6	1	10	0	7	1	5	1	5	0
AFRAS.....per cwt.	4	0	8	0	0	0	0	0	0	0	1	5	1	9	0
MONY, Virgin.....per lb.	30	0	40	0	20	0	29	0	0	1 1/2	0	2 1/2	0	5	0
nd & ordinary.....	10	0	25	0	8	0	18	0	2	4	2	1	2	2	0
A, Bombay.....	0	0 1/2	0	2 1/2	0	0 1/2	0	2 1/2	1	7	1	1	1	8	0
nively.....	0	2 1/2	1	10	0	2	0	9	1	2	1	7	1	8 1/2	0
xandria.....	0	4	2	6	0	3 1/2	1	6	100	0	90	0	180	0	0
MACETT, refined.....	1	3	0	0	1	3	0	0	53	0	48	0	80	0	0
erican.....	1	0 1/2	1	1	1	1 1/2	0	0	20	6	18	0	0	0	0
S.....	0	1	0	0	0	2	0	3	18	6	17	0	0	0	0
NIACI drop.....per cwt.	1	10	2	0	1	10	2	0	0	0	0	0	0	0	0
s, fine washed.....	18	0	20	0	14	0	15	5	24	0	28	0	0	4	0
s, sorts.....	9	10	15	10	9	10	11	10	0	4 1/2	0	3 1/2	0	4	0
ic, pale picked.....	2	0	2	2	2	5	3	0	0	0	0	10	1	4	0
sts, ind, to fin.....	1	16	2	0	1	18	2	14	0	6	1	0	2	6	0
EY, pick, gd, to fin.....	6	10	9	10	7	5	9	10	1	7	1	8	3	0	0
s, gd, & inf.....	2	10	5	10	8	10	6	0	1	2	1	0	1	7	0
s, sorts.....	2	5	2	5	1	10	3	5	3	5	3	8	4	9	0
OTIDA, cm, to fin.....	0	13	3	0	2	0	2	12	3	0	3	0	3	7	0
MUN, 1st & 2nd.....	10	0	24	0	21	0	55	0	2	2	1	11	2	11	0
s.....	£	s.	£	s.	£	s.	£	s.	0	5 1/2	0	4 1/2	0	5	0
a, Manila.....per cwt.	25	0	61	0	18	0	38	0	0	0	15	9	16	3	0
ola, red.....	120	0	135	0	65	0	120	0	0	0	19	0	23	6	0
AR, pale.....	90	0	100	0	75	0	95	0	0	0	24	0	29	0	0
PRIMUM.....	0	0	0	0	9	10	15	0	0	0	0	0	0	0	0
ANUM.....per lb.	0	6	1	2	0	0	0	0	0	0	2	3	0	0	0
OR, pckd, pipe per cwt.	350	0	370	0	230	0	255	0	0	0	2	4	3	0	0
CUM.....per lb.	1	0	3	2	1	0	1	9	1	11	2	4	3	0	0
.....per cwt.	75	0	150	0	80	0	130	0	2	1	2	4	2	5	0
E, sorts.....	60	0	70	0	58	0	70	0	2	3	2	4	2	5	0
selected.....	115	0	200	0	110	0	180	0	0	0	33	0	84	10	0
E, picked.....per lb.	3	0	4	6	2	6	3	0	2	4	0	2	4	0	0
s, gd, & fine per cwt.	200	0	240	0	160	0	170	0	0	0	0	0	0	0	0
s, to fair.....	55	0	100	0	60	0	145	0	0	0	0	0	0	0	0
UM, p, drop.....	66	0	70	0	80	0	84	0	0	0	0	0	0	0	0
mber & ylw.....	62	0	65	0	70	0	75	0	0	0	6	0	7	10	0
AL.....	55	0	60	0	50	0	60	0	5	0	5	0	5	17	6
RAC.....	80	0	115	0	60	0	100	0	2	19	3	4	3	7	6
AC, Orange.....	1	5	0	152	6	98	0	17	6	0	0	0	0	0	0
Liver.....	120	0	140	0	90	0	100	0	0	0	12	0	45	0	0
CANTH, leaf.....	16	0	17	0	20	0	21	6	0	0	13	0	26	0	0
in sort.....	240	0	400	0	260	0	360	0	0	0	6	1	7	10	0
.....	40	0	210	0	40	0	190	0	0	0	0	0	0	0	0
s.....	£	s.	£	s.	£	s.	£	s.	0	5	5	5	5	5	5
ale.....per ton	32	0	0	0	27	19	27	15	8	0	7	10	8	0	0
ellow to tinged.....	23	0	31	0	23	10	27	10	5	6	5	10	5	15	0
rown.....	22	0	0	0	21	0	23	0	14	10	11	0	12	10	0
.....	68	0	70	0	53	0	54	0	6	10	6	0	0	0	0
Oil, continued:—															
BODY.....per tun	0	0	to 0	0	0	0	0	0	0	0	0	0	0	0	0
COB.....	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WHALE, South Sea, pale.....	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
yellow.....	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
brown.....	20	0	22	0	0	0	0	0	0	0	0	0	0	0	0
East India, Fish.....	0	0	0												



THE PATENT MEDICINE TRADE.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—After thinking over it for a month, I have come to the conclusion that the letter of "Proprietor" in your issue for August is unanswerable, but it means "war to the knife." It is a good thing to know when you are fairly beaten, and we chemists, who made the patent trade by lending it our countenance, for the sake of easy gains, must take the consequences of sinking our own individuality. It has now found its proper level, and is gone from us for good. The sooner we as a body recognise this fact, and learn to fight each for his own hand, so much the better for the limited number of survivors. But we must take a new departure, and form higher aims. Then we need not be effaced from God's creation; but once and for all let us leave off whining about the inevitable.

Your leading article for September strikes the right key—it is full of suggestions to receptive minds. The field is vast—let every pharmacist choose his lod and work it. If a man has brains, and will use them, throwing overboard other men's concoctions, he can still live by pharmacy, and be a valuable—perhaps the most valuable—member of society.

Yours truly,
AIDAN.

Gas-stoves.—H. A. C. (127/43) asked about the best kinds of gas stoves to warm shops. Mr. F. Foster, Scarborough, says the metal fires of Mr. John Bateman, 104 Strand, London, answer admirably.

G. B. has found Leoni's patent gas-stove a remarkably good one, free from smell, and easily managed. It is dome-shaped, in ornamental porcelain, and is rather expensive, but well worth the money to anyone wishing for a really good shop-warmer. In fitting up avoid all indiarubber tubing or connections, and have a good-sized metal pipe to supply the gas.

Mr. J. Munday, Bridgnorth, recommends Gill's patent gas-stoves, which are fitted with the top level to the shop floor. Made by Mr. J. Gill, Gasworks, Much Wenlock.

J. T. S.—Tincture of Calendula.—The homoeopathic tincture is made with 1 part of the leaves and flowers of the marigold to 10 parts of proof spirit. A strong liquor calendulae is made in Germany for external application by putting fresh flowers covered with water in a white glass vessel, tightly closed, and exposing all the summer to sunlight. The flowers are pressed, and the liquor obtained is mixed with half its volume of proof spirit.

Sarsaparilla Beer.—In response to a query in our last the following have been kindly sent to us by Mr. G. Mitchinson, of 22 Randall Street, Carlisle. They are the formulæ of a celebrated drug-store of New York, and yield products which he thinks superior to anything of the kind made in England:—

SARSAPARILLA BEER.

	Oz.
Sweet fern	6
Sarsaparilla	6
Wintergreen	6
Sassafras	6
Prince's pine	6
Pimento (or Jamaica pepper)	4

Grind all the above in a spice-mill, then heat 16 gallons of water, and when hot, put in the ingredients and boil the whole for two or three hours, strain it. Take 6 gallons of water and boil in it 1 lb. of hops for one or two hours, strain it, and then mix the two decoctions together, after which add to the whole 2 gallons of molasses; and when new milk warm put into it 1 to 1½ pint of good brewers' yeast. When the fermentation is over, fine with isinglass (or the whites of two eggs beat to a froth with a little of the beer). Bung up in a cask and let stand until clear, then bottle for sale.

GAG, OR WAHOO BEER.

Take—	Oz.
Sweet fern	2
Sarsaparilla	1
Wintergreen	1
Sassafras	½
Prince's pine	2
Comfrey root	2
Burdock root	2
Nettle root	1
Solomon's seal	1

Grind; boil four hours in 6 gallons of water, strain, then add to the liquor 1½ quart of molasses, when lukewarm put into it 1 pint of good brewers' yeast, let it stand to ferment for 24 hours, fine with isinglass or white of egg, then you can bottle or put it in a tight keg.

SARSAPARILLA SYRUP FOR THE SODA-WATER MACHINE.

Take—	Drops
Oil aniseed	10
Oil wintergreen	20
Oil sassafras	20

The above to be mixed in

Spirits of wine	3 oz.
Burnt sugar	6 .., or q. s.
Simple syrup	1 gallon

Mix all well together. The quantity for each half-pint bottle is 1½ oz. to 2 oz.

Ink for Indiarubber Stamps.—We have received the following with specimens of the impressions. From Mr. Brooks, Whitby:—

Aniline violet	62 gr.
Lump sugar	120 gr.
Methylated spirit	5i.
Water	5xiii.

Dissolve or mix the aniline in the spirit and the sugar in the water (1) and mix.

From Mr. J. Jessop, Halifax:—Add sufficient methylated spirit to aniline crystals to make a fluid of cream consistence.

From Mr. C. A. Macpherson, Elinburgh:—Dissolve 12 to 16 grains of aniline crystals in a small quantity of spirit, and mix with 1 oz. of glycerine.

[This impression is much fainter than the others.]

Mr. C. B. Allen, Kilburn, says the following answers admirably specimens of stamps are, in our opinion, the best that have been sent us

Judson's dye (violet, he uses)	a 64. bottle
Mucil. acacie	5ij.
Aque de till.	3iss.

A very small quantity spread on the pad will suffice for two or three months.

Mr. J. Munday, Bridgnorth, says he finds answer perfectly, glycerine coloured with a few drops of Judson's dye, colour according to fancy ink thus made to be used off a pad.

Mr. G. Best, Darlington, has found that 3i. of crystal aniline dissolved in 5i. of glycerine answers admirably.

Ginger Beer.—E. R. G. (127/58) asked for a good recipe for a ginger beer. Mr. Jessop (Halifax) says Bird's ginger-beer powders are a very good article, a 3d. packet being sufficient [with sugar, we suppose] for 3 to 4 dozen bottles.

22/188. *Polemic* writes:—"When two or three gentlemen composed a firm are in business, as druggists, or wholesale druggists, and not the registered as chemist and druggist, am I to understand, now, since the result of the law suit Pharm. Society v. London Provincial Dispensary (Limited), that the firm above referred to can (by engaging a registered assistant) legally keep open shop for the sale of poisons, &c."? The result of the trial does not entirely justify such an assumption. What is it that if the said firm can make up seven partners in all, and will of itself as a limited liability concern, it may then, by the employment of a registered chemist to vend poisons, carry on a chemist and druggist business in all its branches. So much is established by the trial and dispute. Various expressions, however, which fell from the judge seem to imply that a partnership is as much a corporation as a limited company, and is consequently as free from the control of the Pharmacy Act. We do not think the solicitor to the Pharmaceutical Society should care to advise his clients to fight up to the House of Lords against such a deference as that.

20/188. *Subscriber*.—Parrish's Syrup.—This formula, we suppose, must be given, at least, once in each year. Parrish prescribes:—

Ferri sulph.	600
Sodii phosph.	750

Dissolve separately in boiling water, mix the solutions, and filter the precipitate.

Dissolve 720 grains calcium phosphate in 4 oz. hot water, precipitate by ammonia and wash the precipitate.

The precipitates (fresh phosphates) thus obtained are dissolved in 1,200 grains of glacial phosphoric acid previously dissolved in water; add 40 grains carbonate of soda and 60 grains carbonate of potassium to the solution. If any precipitate should occur, dissolve by phosphoric acid. Then dilute with water to 20 fl. oz., add 120 grains powdered cod liver oil and 36 troy oz. of sugar. After the syrup has been strained add 1 fl. oz. of oil of orange.

This syrup professes to contain in each teaspoonful 1 grain ferric phosphate, 2½ grains calcium phosph., and smaller proportions of phosphates of iron and potash.

some respects a preferable form for the syrup is to dissolve 240 grains of iron wire in 3 oz. of tribasic phosphoric acid, sp. gr. 1.75, and 4 oz. r; 9.3 grains fresh slaked lime in $9\frac{1}{2}$ oz. phosph. acid and 14 oz. water; grains soda carb. and 72 grains pot. carb. in $\frac{1}{2}$ oz. phosph. acid and 1 oz. r. Mix the three solutions, make up with water to 28 fl. oz., make p with 52 oz. sugar, add 25 grains powdered cochineal, flavour with of orange-flower water, and make up with water to 64 fl. oz. This is more exact proportions of the phosphates.

134. *Boston.*—**Brass Polish** is generally a paste made chiefly of rotten-stone. Rotten-stone, with half its weight of soft soap, makes a polish. A little oxalic acid may be added, and the paste may be made sweet oil and turpentine instead of soft soap. These are not used for polished or lacquered brass-work.

132.—*Droit.*—Apply to the Registrar at the College of Physicians, are Street, Dublin, for the Calendar of the Irish Pharmaceutical Society, in which you will get full information respecting the examinations. The preliminary in Ireland is not sufficient to dispense with the examination in England.

133.—*C. A.*—The effervescent citro-tartrate of soda (sodæ citro-tartras vescent) B.P., is the official representative of granular effervescent of magnesia. The directions given in the Pharmacopœia for preparing the granular salt are the best that its authors could devise. We do not give you better information; perhaps Mr. Bishop, whose preparation is generally admired, could help you. The so-called "Dosimetric method of Medicine" is, we believe, the "discovery" of a Belgian physician, Dr. Burggraeve. When a Belgian dissolves sugar in water he thinks he has made a "discovery"; and this Dr. Burggraeve wrote several thick pamphlets on his method. It seems to consist in supplying powerful wines in granules, each containing a definite dose of the medicine. We have thus allopathic treatment in homœopathic form. Chantaud & Co. of Paris, supply the medicines.

THE POLITICAL ATTITUDE OF THE TRADING CLASSES.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

often imagine that we love men in power; but it is all interest at the bottom; we espouse not their party to do them any service, but to take them of service to ourselves."

man has a right to think as his reason directs; it is a duty he owes to himself to think with freedom, that he may act from conviction."

—Your correspondent "A. E. B." does not find it convenient to see in August number any answer to his letter, and he wishes to have a one answered, to which he desires to narrow the whole subject, and he frames in these words, "Whether it is right and wise to make political convictions subservient to our interests as tradesmen." He is a barrister who would, to gain his point, pin a witness to "yes" or "no" and then prevent him from saying another word. Answer—It is "right and wise" to obey the first law of nature—self preservation—

is "right and wise" to refuse to be the slaves of a political party, it is "right and wise" that retail tradesmen should possess some share of direction of trade legislation,

is "right and wise" to refuse to be quietly asphyxiated by unconscionable, tyranny, and hypocrisy, and their fraudulent laws,

it is "right and wise" to make our political convictions subservient to our interests, our rights, and our liberties. The fact is that "A. E. B."

not distinguish between our political convictions and the political convictions of other people—his own for instance. He assumes that because he attempts to obtain that share of the class representation of this country to which we are entitled, that we are a gang of miscreants who endeavour to undermine the welfare of the nation. My own private conviction is that, until the trading classes are more honourably represented and legislated for, no wealthy or professional man can obtain the unconditional parliamentary vote of,

Yours obediently,

NEMESIS.

1. *Zingib.*—The following is Dr. Coffin's formula for **Composition** of which, we believe, what is generally sold:—Bayberries, 4 oz.; an pine and ginger, of each 2 oz.; cayenne and cloves, of each 2 oz. Or, bayberries, Canadian pine, and ginger, of each 4 oz.; seal and sassafras, of each 2 oz.; cayenne and cloves, of each $\frac{1}{2}$ oz.;

have been requested to publish the following announcement:—The City and Guilds of London Institute has announced that it is prepared to award a limited number of free admissions to certain technical classes at University College and King's College. The courses of instruction at University College embrace chemical technology, Professor Graham, and mechanical technology, under Professor Henry. The laboratory instructions in chemical technology include the chemistry of the alkali trade, soap, glass, pottery, cements, brewing, and agricultural chemistry, and in the award of these free studentships preference will be given to candidates who are already engaged in chemical work and who possess an elementary knowledge of organic chemistry. For Kennedy's class and laboratory instruction will be occupied, the

first term, with machinery and plant used in the manufacture of iron and steel, with special reference to modern processes in steel-making, and, during the second term, with machinery and apparatus used for testing strength of materials and for measuring strains. In awarding studentships to these courses the Institute will give preference to foremen and others engaged in mechanical works. At King's College free admission will be given to the classes on metallurgy, under the direction of Professor A. K. Huntington. The laboratory for instruction is open from 10 till 4, and on Friday evenings from 7 to 9. Among the subjects treated in this course will be the principal properties of metals, preparation of alloys, and methods of assaying. Free admissions will also be given to the classes in practical fine art, under the direction of Professor Delamotte, and here, as in the other courses, the awards will be made to students belonging to the industrial classes, who might otherwise be prevented by the expense of the fees from attending these classes. We are requested to state that application for these free studentships should be sent, in the first instance, to the Director and Secretary of the City and Guilds of London Institute, Gresham College, E.C.

HOMŒOPATHIC DOSING.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—Your correspondent "Ingletton" would seem to imagine that he is the only person who has heard the old adage "One swallow doesn't make a summer," or that knowing it is able to acknowledge the truth of the proverb.

It is not I who have jumped to a conclusion, but rather "Ingletton" and Dr. Bayes, who have been measuring my corn in their own bushels. "Ingletton" has very cleverly analysed my position, as he imagines it, but his ability has this time led him totally wrong, the actual state of affairs being as follows:—

First premiss.—An intimate acquaintance with homœopathy, both theoretical and practical.

Second premiss.—An unbiassed and unprejudiced opinion founded upon that knowledge.

Third premiss.—An example, one selected out of many because it came to my hand the day that I made my communication.

Deduction.—"Homœopathy is a huge lie."

I have had personal knowledge of many "so-called" cures from homœopathic treatment, one being the case of my own sister, and when I commenced to study homœopathy I did so with an unprejudiced mind, being willing to surrender at discretion to anything founded upon sound argument or practical fact.

During my acquaintance with the subject I have come across numerous cases as flagrant as the one instanced in my previous letter, some more so, one of the latter being a prescription from one who is, or was, either President or Vice-President of the Homœopathic Society or School, or whatever name it is known by. My experience has given me an insight into the private practice of, not one, but many, homœopathic doctors, and my opinion of homœopathy, as a whole, is that it is a system of unmitigated humbug. I say nothing of its professors, for there may be, in fact, I suppose are, amongst them sincere and conscientious believers, just as there are ignorant people who cry out against vaccination, &c.

If, after as thorough an investigation of Christianity or any other profession, whether civil or religious, I could detect as many discrepancies, as many hollow shams and humbugs, and as many contradictions between theory and theory, practice and practice, and theory and practice, I should have no hesitation in pronouncing that also a "huge lie."

But happily for Christianity, however many defects it may have, they are comparatively unimportant, and Christianity is still a grade or two removed from homœopathy.

I did not think it necessary to preface at this length the prescription I sent for insertion in THE CHEMIST AND DRUGGIST, nor should I do so now had not both the replies to my letter assumed that the six prescriptions I quoted formed my witnesses, counsel, jury, and judge.

I am, sir, yours truly,

PHYSETER MACROCEPHALUS.

[Our correspondent might have proved his "intimate acquaintance with homœopathy" better than by the vague references to some one "who is, or was, either President or Vice-President of the Homœopathic Society or School, or whatever name it is known by."—ED. C. & D.]

PATENT MEDICINES.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—I have just received the usual offer for a gratis supply of almanacks for 1881 from the proprietors of a popular patent medicine, for extensive distribution to customers and others. I am thinking since the cutting grocers are taking away my trade or my just profits on this and similar articles, I shall decline being the medium of circulating patent medicine lore. I am wondering if the chemists as a body will adopt this principle. We ought in justice to ourselves to do so, and leave the popularising of patents to the grocers and co-operators if they please. By so doing it will be degraded and limited in its influence, and be gradually driven into the position of the quack herbalist. Although I do trade principally with the masses, I have always given the cold shoulder to much of the patent litera-

ture, that I have considered bosh and humbug, but have willingly promoted the sale of anything I have thought a good article. But now, not only is our trade taken away, but our character is scandalised by giving the public a false impression respecting our profits, and the grocer gives a false impression to his customers as to the comparative cheapness of his goods generally. If patent medicines are to be retailed generally at 10½d., 2s., 2s. 3d., and so on, the makers had better mark them these prices, say what they can allow off this for ordinary quantities, and we can act accordingly. But the present state of things is an absurd anomaly. Your advice in THE CHEMIST AND DRUGGIST is suitable and opportune: we shall do well to steer our craft as best we can on the principles you indicate; a few squalls and upsets will perhaps occur, but after a while we shall find ourselves where there is better sailing.

October 3.

Yours truly,

LITTLE BOAT.

SIR,—The trade in patent medicines is being made a special attraction by many persons not chemists by selling at a price so far reduced from their fair, just, and standard rate as to compel the chemist to give up their sale, as not worth while to keep them in stock, and to free himself from the insults daily received.

Many persons, such as co-operative stores, drapers, grocers, &c., are selling patent medicines for a profit not remunerative, 1d. and, in some cases, ½d. being charged. This calls for the serious consideration of all proprietors of patent medicines.

The remedy which I would suggest is for all proprietors to charge all registered wholesale buyers the full price, 1s. 1½d., 2s. 9d., 4s. 6d., &c., allowing a discount to them equivalent to the profits they now receive. To the retail trade they should also allow a discount equivalent to their profits. For the working of these principles and bringing the trade back to its fair and legitimate standing, the wholesale dealers with all orders should have a voucher enclosed stating the discount allowed, and which discount would be paid only to wholesale houses doing business with chemists. The retail dealer opens a new principle of trade. All patents should be put up in parcels of quarter and half-dozens, 1s. 1½d. and 2s. 9d. size, in which parcel the voucher for discount is enclosed. Higher-priced articles would have a voucher for each, stating the discount allowed, and that it would be paid by the proprietor each month on its being forwarded or presented. Thus the retail chemist would receive his just profits. No persons but chemists on the register and in business would be entitled to this discount, and it would compel drapers, grocers, &c., to sell all patent medicines 1s. 1½d., 2s. 9d., 4s. 6d., &c., and even then at a loss, as not being chemists no discount would be allowed. Any chemist or wholesale dealer lending himself directly or indirectly in regard to outside trading would be struck off the register as far as patent medicines are concerned. This new principle of trading would be found advantageous to proprietors, wholesale and retail dealers; it would unite the trade and bring back fair, just, and honourable trading. Many other trades would no doubt follow and be the means of stopping this unfair, unjust, and un-English principle of selling an article at a loss for the sake of selling another at an exorbitant profit. I, therefore, trust these suggestions will receive the serious consideration of all parties concerned.

I am, sir, yours, &c.,

G. HARVEY.

133/62. *D. S.*—Extract of logwood is largely used for dyeing, but the proportion equivalent to 1 lb. of the wood is different for every sample.

133/66. *Two-days.*—Two formulæ said to represent Worcester sauce have been published only this year. You will find them at pages 86 and 151 of the current volume.

132/9. *Dentist.*—*Ivy Gum* exudes from the stem of old ivy plants in the South of Europe and North of Africa. It is said to relieve toothache if placed in carious teeth. Any of the great drug houses would probably be able to get it for you, though it is very little used. If you have any difficulty in getting it apply to T. Christy & Co., Fenchurch Street, E.C.

132/52. *G. F. T.*—Ferreira's "Selectæ Prescriptis" is the standard work, price 5s.

133/63. *Nicoli.*—The qualities demanded are somewhat contradictory, but prepared chalk, with a small proportion of cinchona, would come as near them as anything.

132/2. *Sheep Dip.*—A formula would be appreciated, containing carbolic acid; the dip, a solid soft paste. You published a form used in the colonies, but it is a liquid; a good article, however; and if any of your readers have had time to experiment with it, a combination resulting in a solid may be in use by some of them.—*Wool.*

[No one would gather from this letter that the formula mentioned was published so long ago as 1878; if *Wool* had referred us to the page it would have saved us a long search. The dip consists of equal parts of size, soft soap, glycerine, and carbolic acid, 1 lb. to be dissolved in ½ gallon of boiling water, and added to 2 gallons of cold water. To obtain a harder mass, hard soap might be substituted for the glycerine, and, if this is not sufficient, for the soft soap also. There is no particular virtue in either glycerine, size, or soft soap, and in the dry climate of Australia, for which the dip was

specially designed, the glycerine may be necessary to prevent the dip drying into a hard mass.—*Ed. C. & D.*]

53/132. *Leeming's Essence.*—*Quinine.*—We have published and published the following formula, which, we have been informed, more or less closely represents the preparation named:—

Cantharides	8 oz.
Camphor	2 oz.
Euphorbium	2 oz.
Oil of origanum	1 oz.
Castile soap	3 oz.
Spirits of wine	6 pint

Digest for 14 days and filter.

66/134. *J. B.*—*Herbs.*—Butler & McCulloch, of Covent Garden, supply most of these, or you would get foreign herbs from Mr. Christy, of 155 1/2 church Street. Culpepper's "Herbal," though more than 200 years old is believed, still the established authority of most herbalists. *Hepophosph Iron.* The colour of this, like that of the phosphate, depends on whether it is obtained as a ferrous or ferric salt. In each case when freshly prepared, it should be yellowish-white. The latter (ferric) is of course permanent; the ferrous undergoes by exposure more or less complete oxidation the change being attended with a darkening in colour, as in the same sent by you.

Royal (Dick's) Veterinary College, Clyde Street, Edinburgh.—Professor Walley asks us to state that the fees at this college amount to 32l. 15s. 6d., payable in instalments, not to 36 guineas payable in advance, as might have been understood from the statement in our editorial number.

135/36. *Chemicus.*—The indelible ink for linen, mentioned on p. 23 of 1879 volume, will probably suit rubber stamps. We repeat the formula: Dissolve 12 grains of nigrosine (braud *Noir perfectionné*, sold only by Störmer, of Breslau, Germany, at 30s. a kilogramme) and 12 grains aluminium acetate in 1 ounce of water. In using this the fabric should be carefully cleansed from all starch and dressing, and time should be given allow it to absorb the ink. The marks are not absolutely indelible; repeated washings will remove them, but they are not affected by chemicals of lime, which bleaches silver inks, and is now used universally by laundresses.

9/106. *Subscriber (Bradford).*—What you call "Bittle" nut is, we suppose, what is generally known as Betel nut, and is now official in *Pharmacopœia*. The seeds you send appear to be bill seeds (*sem. ar.*). The black stuff we do not care to hazard a sudden opinion about, and allow us no time for closer examination.

The Gold Medal Eau de Cologne.—Several correspondents asked us to reprint the formula for Eau de Cologne from which, as in our last, Mr. David Clark, of Warwick, Queensland, made the one which won the gold medal at the Sydney Exhibition. We presume the following was the formula:—

Bergamot	7
Citron oil (oil of citrat, cedrat, or cedro, made from citrus medica)	17
Neroli petale	10
Neroli bigarade	31
Rosemary oil	7
Grape spirit	3,000

Eau de Cologne should not be filtered. We may add that a very small portion of oil of vetiver, oil of patchouli, or sometimes oil of ylang-ylang, is added, and is believed to aid in the development of the true Cologne. Mr. Clark says he used grain spirit instead of grape spirit, and made a finer Eau de Cologne.

The Benevolent Fund.—Another Chemist (Bristol) writes in consequence to the motion made by Mr. Robbins concerning the Benevolent Fund. He is glad the motion was lost, but referring to the suggestion of Mr. Robb says that "a subscriber paying 10l. per annum should be to receive 40l. per annum, and that a subscriber of 20l. should receive 80l. per annum." Our correspondent says, "Does he forget that if a subscriber insures his life at the age of twenty or more, his representatives at his death would receive at least 500l., if not more, and that without the trouble of replying minutely to all the questions inquired into by the Benevolent Fund Committee (should he be in a position of keeping on the premises)?" We do not think our correspondent has correctly apprehended Mr. Robbins' suggestion; and we think he will see, on reading the sentence, that he has not made his own argument so clear as it might have been. We, at any rate, fail to catch the point of it.

"VIVE LA LIBERTE ET LES QUACK MEDICINES!" Last year a project of law was introduced into the Swiss Federal Council, the object being to prohibit entirely the use of secret remedies in Switzerland. The Bill has been rejected by 80 votes to 33.

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net Lozenges, No. 1 size, about 250 to the oz.	3/6 per lb. net.	Bronchial Cough Lozenges (similar to Brown's Troches)	2/6 per lb. net.
" No. 2 " " 150 "	3/0 " "	Chlorodyne " (white and brown)	2/3 " "
" No. 3 " " 100 "	2/6 " "	Children's Cough Lozenges (guaranteed to contain no Opium, and yet are a most effectual sweetmeat)	1/6 " "

are truly a *Bouquet Lozenge*, and acknowledged to be the best in the Market.
Pink Worm Tablets, a sweetmeat (in 1/2 gross 1/15s), 7/- gross net.

The most effectual Worm Medicine of its kind ever prepared.

TWEMLOW'S CHLORODYNE.—NOTE!

Proportions of active ingredients—Morphia Mur. gr. iv. per f. oz., Acid Hydrocyan. (Scheele's) m. viij. per f. oz.
most respectfully to draw your attention to my manufacture of Chlorodyne proportions of active ingredients, as above, special qualifications as follows, viz.:—Its non-staining qualities, its miscible properties, its containing none but "Ol. Menth. Pip. Ang." Mitcham; then note its price compared with its quality and strength; intended to contain ingredients quite equal, if not superior, to any other make of Chlorodyne extant, as attested by Surgeons and Chemists over the whole of Great Britain; its superiority over other Chlorodynes is alone the cause of its being in such great demand. My price is—
7/- lb. net, in 1-lb. bottles free. 6/9 lb. net, in 5 or 6 lb. Winchester, bottles free. 6/6 lb. net, in 2-lb. Winchester, bottles free.

Wholesale Manufacturer of Chlorodyne for Wholesale and Retail Houses, in large or small quantities, to their own recipes, guaranteed to be faithfully prepared, at remarkably low rates. Special quotations for large quantities of Chlorodyne. It can be altered or made to suit all tastes.
any Lozenges and Proprietarys may be obtained through any Wholesale House, and see that on every bottle and package there is a label containing name and address. Carriage paid to any Wholesale House in London or Liverpool upon any quantity, or 4/- worth sent direct to any address in England, carriage paid.

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Restlessness	Asthma	Local Debility
Complaints	Bronchitis	General Debility
Neuralgia	Paralysis	Female Complaints
Sciatica	Epilepsy	Mental and
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Writer's Cramp	Gout	Functional Disorders
Loss of Voice	Constipation	&c., &c.

is no conjecture, but an established scientific fact, and it must be noted that PULVERMACHER'S GALVANIC CHAIN-BANDS, by supplying this electrical deficiency, constitutes Nature's most congenial aid in the ailments referred to, embodying a host of remedies in one. Thirty years' successful experience has proved the marvellous remedial powers of these appliances, even in cases defying ordinary treatment.

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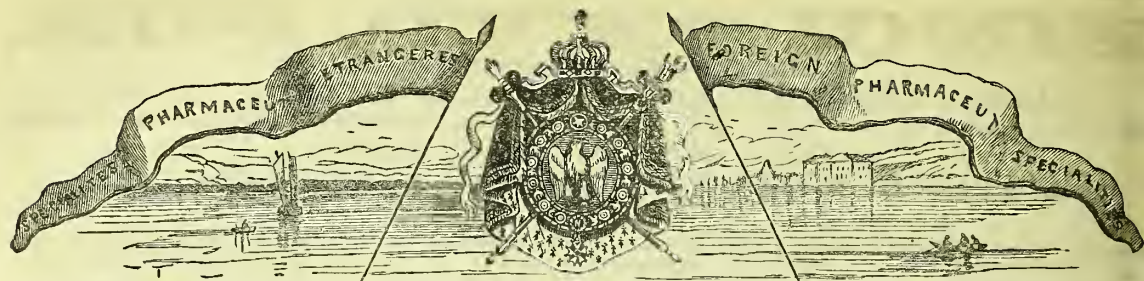
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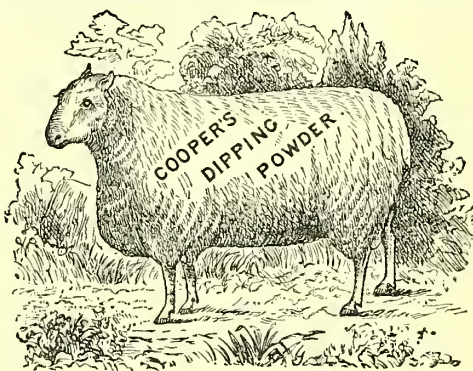
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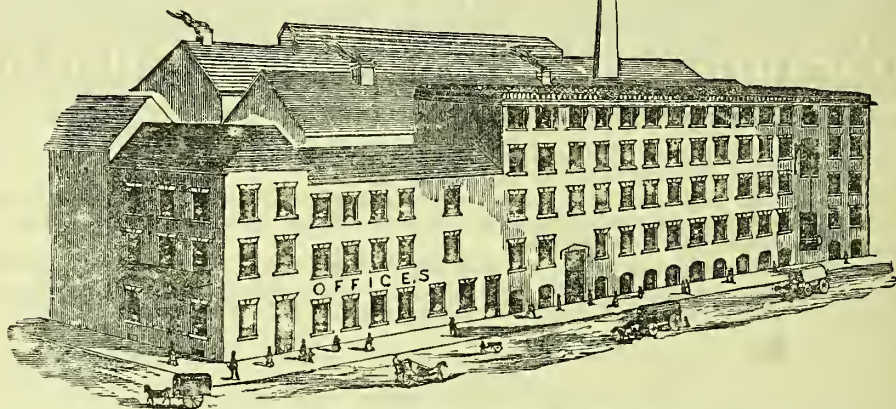
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MANUFACTURER OF

ERGOTINE, pure Dialysed	Brown colloid, purified by Dialysis	Free from all saline matter present in the ordinary Ergotine and extracts.
ERGOTINE OXYD. (5% Dialysed)	Transparent brown liquid, purified by Dialysis	Free from all saline matter. Diluted by ten times its weight of water, will stand the test of Nitrate of Silver.
ERGOTINE PORCI (100%)	White, sweet, odourless powder	Freely soluble in water, not hygroscopic, and will not deteriorate; will dissolve (by Wittstein's test) 100 parts of white of egg and 250 parts of fibrine.

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SODA, BICARBONATE	White powder and crystals	Dissolves bright in water.
SODA, BICARBONATE	Purest white powder, taste neutral, speciality for Soda powder	See tests P.B.
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(TRADE MARK.)

Which is no Quack Imposture, but a genuine, truly useful, *bona-fide* medicine, and the quickest and most effectual cure for Neuralgia, Tic-Douloureux, Rheumatic Neuralgia, Spasmodic Neuralgia, Hysterical Neuralgia, Earache, Brow Ache, Faceache, Toothache, Sciatica, Nervous Disorders, Nervousness, Nervous Headache, Nervous Cough, Nervous Irritability, Nervous Trembling, Nervous Debility, and Nerve Pains, after having been used with great success for sixteen years in his private practice, is now before the public. It has speedily relieved these diseases when specifics (?) vaunted as cures have been unsuccessful, and severe teeth have been previously extracted, and that without the least benefit. This valuable Mixture relieves pain and spasms, strengthens and calms the nervous system, restores sleep, and quiets the brain when disturbed by anxiety, worry, and overwork. To raise the spirits, to give life and cheerfulness, to steady the muscles and limbs, in persons weak, depressed, and trembling from excessive drinking, it surpasses all other medicines. Being a Stomachic, no medicine excels it as a remedy for Indigestion, and its attending evils.

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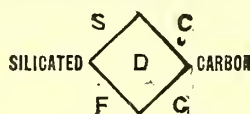


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INDEX TO ADVERTISEMENTS,

See Pages 45 & 46.

R. M. E. TOOMEY, Surgeon-Dentist, begs to direct attention to his recent invention in Dentistry, patented in England, France, Belgium, Germany, and America, whereby a perfect model of the mouth can be taken, together with the correct bite, in one operation, even by the patients themselves. To Invalids and persons residing at a distance requiring ARTIFICIAL TEETH this invention must be of great value. The apparatus or Tray is of Metal, shaped to fit the

inside of the mouth. It is made in three sizes, one of which in practice is found to suit every variety of mouth. Placed inside the Tray is composition of such a nature that in less than a minute after being bitten into it becomes sufficiently hard to prevent binding or sucking, in withdrawing from the mouth. All that is required is that the Tray be steeped in hot water for seven minutes, then insert in the mouth, and bite firmly. The following woodcuts will show the simplicity of the apparatus.

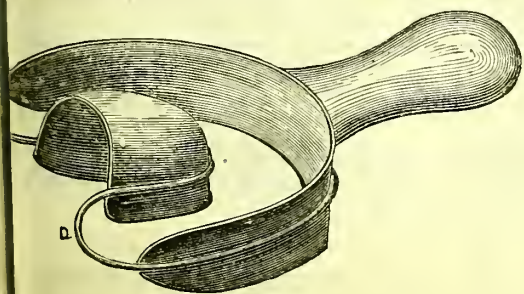


Fig. 1. The Tray empty.

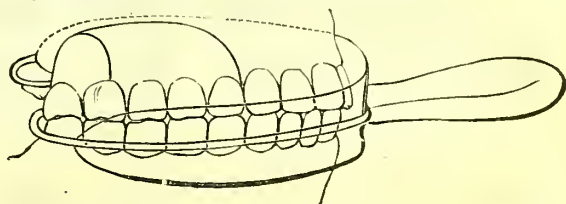


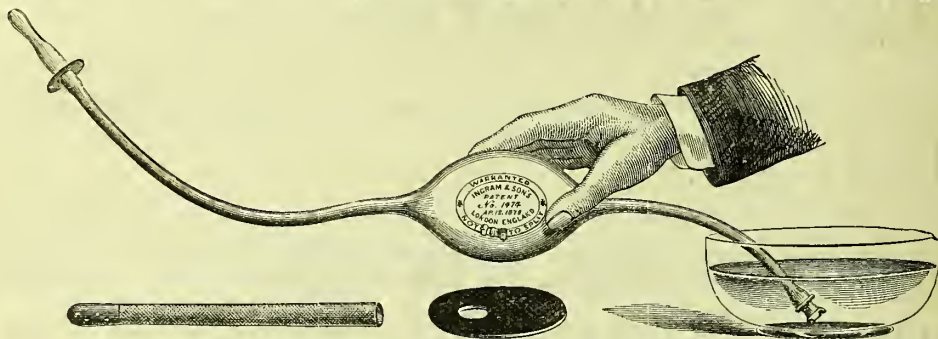
Fig. 2. The Tray in use.

41 RATHBONE PLACE, OXFORD STREET, W.

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By Royal Letters Patent.

MADE IN ONE CONTINUOUS PIECE.



WARRANTED NOT TO SPLIT.

The following are the advantages we claim for our invention:—

- 1st.—A complete Enema and Syringe Apparatus, without any metallic connections or wire fastenings whatever, thereby avoiding the possibility of leakage.
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COLLIER'S ALUMINIUM RESPIRATOR

It is infallible as a preventive of Coughs, Colds, Bronchitis, and all the evils arising therefrom. And for general use in Damp and Foggy weather, especially on leaving Heated Rooms, Theatres, Crowded Assemblies, &c, &c.



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A Pure Solution of PHOSPHORUS in combination with Quinia, Cypriden and Xanthoxilin, the Wonder of Modern Chemistry from Strychnia and all Dangerously Active Drugs. Pleasant to the taste, and the only Safe, Prompt, and Reliable PHOSPHODYNE REMEDY for Overworked Brain, Worry, Anxiety, Excitement, Late Hours, Business Pressure, Nervous Prostration, Nerve Wasting Diseases, Asthmatic, Consumptive, Stomach and Liver Complaints, Impaired Nutrition, Impoverished Blood, Premature Decay and all morbid conditions of the system, dependant upon the deficiency of Vital Force.

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Purifies and enriches the Blood; Clears the Skin; thoroughly Invigorates the Brain, Nerves, and Muscles; Re-energies the Functions of Life by supplying the PHOSPHORIC element which has been wasted, and thus Imparts Energy and Fresh Vitality to Exhausted Nervo-Electric Force, and Rapidly Cures every form of Nervous Debility, Paralysis, Nervous Mind and Heart Diseases, whatever cause.

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always give Instant Relief in RHEUMATISM, NEURALGIA, GOUT, SCIATICA, LUMBAGO, NERVOUS and SICK HEADACHES, and like Disorders,

will effect a cure in a very short time. In chronic cases of many years' standing it has, when taken regularly, effected a complete cure, even in persons of advanced age, when the case had been pronounced hopeless.

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" No. 1	6/6	1/3
" No. 2	6/	1/
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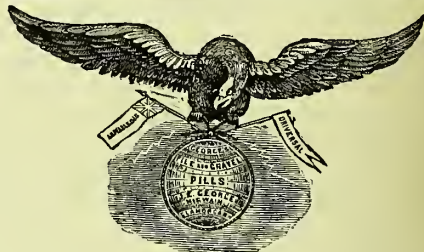
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From Lord Chancellor SELBORNE, Vice-Chancellor Sir W. PAGE WOOD,
and the LORDS JUSTICES OF APPEAL.

VICE-CHANCELLOR SIR W. PAGE WOOD, by whom the suit in Chancery was first heard, stated in his judgment that Dr. J. Collis Browne was undoubtedly the Inventor of Chlorodyne, that the whole story of the Defendant Freeman was as liberally untrue as the falsehood he had deposed to with reference to the use of his Chlorodyne in the Hospital.

The VICE-CHANCELLOR also stated, 'that Chlorodyne was a fanciful name, and had application been made sooner, the Court would have given Dr. Browne protection.'

LORD CHANCELLOR SELBORNE coincided with the judgment of the Vice-Chancellor upon this point, and stated 'that had application been made at a proper time and place, the Court would have found means to restrain the Defendant from misrepresenting the decision of the Vice-Chancellor.'

LORD JUSTICE JAMES, on appeal, stated in his judgment, 'that the Defendant Freeman had made a deliberate misrepresentation of the decision of Vice-Chancellor Wood.'

It was proved in Court, on affidavit by Mrs. Forbes, of Paris, that the testimonial published in the *Times*, November 14th, 1865, speaking of the great efficacy of Chlorodyne in Cholera, referred to Dr. J. Collis Browne's Chlorodyne, and that she never used any other, that she had written to the Defendant Freeman to that effect; notwithstanding which notice the Defendant publishes the said testimonial as referring to his medicine.

The Editor of the *Medical Times*, in his report on Chlorodyne, January 13th, 1866, gives information that the Chlorodyne referred to was the medicine introduced by a retired Army Medical Officer, which was Dr. J. Collis Browne; still this is published by the Defendant as testimony to his medicine.

Numerous affidavits from eminent Physicians and others were produced in Court, stating that Dr. J. Collis Browne was the Inventor of Chlorodyne, and that when prescribing they mean no other.

The Defendant himself publishes that his compound is in effect and composition quite different to any other preparation; nevertheless he assumes the name, testimonials, &c., of Chlorodyne.

Technicalities in law prevent that protection which the public should justly have against such a course of conduct. It is now incumbent on all who purchase Chlorodyne to see that the name, 'Dr. J. Collis Browne's Chlorodyne,' is engraved on the Government Stamp, as it is not sold otherwise. All other compounds under the name of Chlorodyne are spurious. All attempts at analysis have failed; hence the statement that the constituents of Chlorodyne are known is a misrepresentation.

From SYMES & Co., Pharmaceutical Chemists, Medical Hall, Simla,
January 5, 1880.

To J. T. DAVENPORT, Esq., 33 Great Russell Street, Bloomsbury, London.

DEAR SIR,—Have the goodness to furnish us with your best quotations for Dr. J. Collis Browne's Chlorodyne, as, being large buyers, we would much prefer doing business with you direct than through the wholesale houses. We embrace this opportunity of congratulating you upon the wide-spread reputation this justly-esteemed medicine has earned for itself, not only in Hindostan, but all over the East. As a remedy of general utility, we much question whether a better is imported into the country, and we shall be glad to hear of its finding a place in every Anglo-Indian home. The other brands, we are happy to say, are now relegated to the native bazaars, and, judging from their sale, we fancy their sojourn there will be but evanescent. We could multiply instances *ad infinitum* of the extraordinary efficacy of Dr. Collis Browne's Chlorodyne in Diarrhoea and Dysentery, Spasms, Cramps, Neuralgia, the Vomiting of Pregnancy, and as a general sedative, that have occurred under our personal observation during many years. In Choleraic Diarrhoea, and even in the more terrible forms of Cholera itself, we have witnessed its surprisingly controlling power. We have never used any other form of this medicine than Collis Browne's, from a firm conviction that it is decidedly the best, and also from a sense of duty we owe to the profession and the public, as we are of opinion that the substitution of any other than Collis Browne's is a deliberate breach of faith on the part of the chemist to prescriber and patient alike.

We are, Sir, faithfully yours,

SYMES & Co.,

Members of the Pharm. Society of Great Britain,
His Excellency the Viceroy's Chemists.

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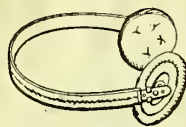


Fig. 1. Patent Single.

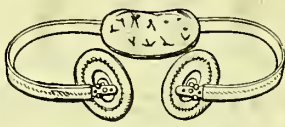


Fig. 2. Patent Double.

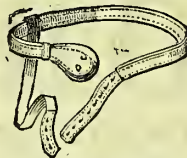


Fig. 3. Common Single.

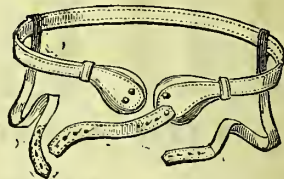
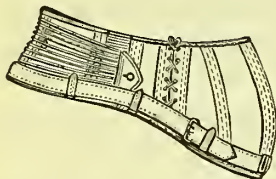


Fig. 4. Common Double.

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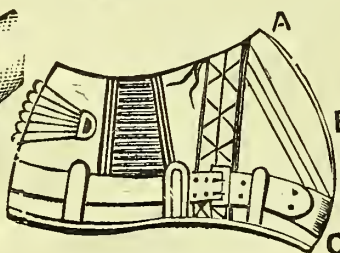
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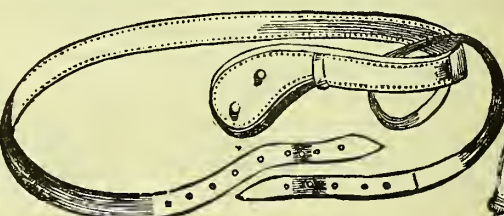
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Will Dye a beautiful and Fast Black at one operation.

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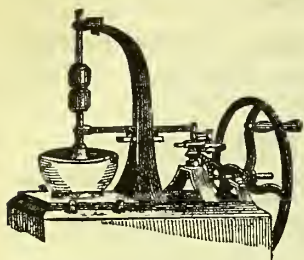
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"These machines have for many years proved most serviceable on a large and small scale for Grinding, Levigating, and Mixing Powders, Pill Masses, Paints, &c." *Vid. Pharmaceutical Journal*, June, 1856, p. 535; and July, 1856, p. 33.

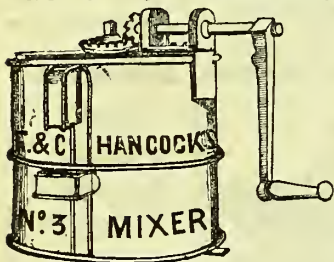
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The mixing is accomplished by revolving discs, and is the only machine that can blend light and heavy powders in equal proportions, grinding coagulated powders in the act of mixing, dispensing with use of sieves or mortar. Is light to work, strong, and durable, and half the price of any other mixer of equal capacity. These machines are made for hand and steam power.

No. 1.—To mix from one to six pounds.. ..	Price £1 0 0
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Sold everywhere in 1-lb. Tins, at 1/6 per lb., sufficient to make 16 Pints. Wholesale, 12/6 per dozen less usual discount to large buyers.

Berners College of Experimental Science and School of Classical and Technical Education, 44 Berners Street, W., August 20th, 1880.

Analytical Department.

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Gentlemen.—This is to certify that I have made a careful examination of the "Valentia" Food, and find it an exceedingly nutritious compound, rich in nitrogenous matters, viz., in Legumen, Albumen, Gluten, &c., combined with an appropriate amount of "Respiratory" Food. It also contains the valuable "Food Phosphate of Potash and Lime" amongst other mineral constituents.

This Food is quite free from any objectionable substance or quality.

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Professor of Chemistry, late of the Royal Polytechnic Institution.

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Berners College of Experimental Science and School of Classical and Technical Education, 44 Berners Street, W., August 20th, 1880.

To the CONSOLIDATED FOOD CO.—Gentlemen,—I have carefully examined analysed the "Valentia" Food prepared by you. 100 parts contain:—

Soluble Nitrogenous Organic matter, viz., Gluten, Legumen, and Starchy matters, &c.	1
Other Nitrogenous Organic substances, viz., Albumen, Fibrine, &c.	3
Inorganic Constituents, principally Phosphate of Potash and Lime, with Salts of Alkalies	5
Traces of Soluble Silica	10

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BRACHER'S PATENT.

RECENT TESTIMONIALS.

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Sheffield, June 28, 1880.—Your "Desideratum" Mixer is proving a great saving of time to us for mixing Baking Powder, and does its work perfectly. —Yours truly, MART, CHAPMAN & CO.

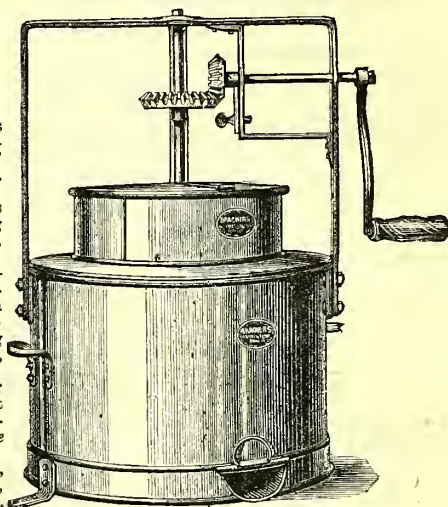
27 High Street, Wisbech, June 30, 1880.—Gentlemen,—I have pleasure in informing you after using your "Desideratum" Mixer for about six months, that I look upon it as a most useful invention. It mixes Baking Powder with considerably less work than anything else I have seen, doing its work thoroughly and satisfactorily. —I am, Gentlemen, yours respectfully, B. J. WEBB.

Lancaster, July 1, 1880.—Sir,—Mr. Barrow has had your "Desideratum" Mixer in use for some months; the secret of the success of your machine is, all the substances required to be used are thoroughly blended, which is a *sine qua non*.

College Street, and St. Peter's Wharf, Ipswich, July 5, 1880.—Dear Sir,—We have used your Mixer for 12 months, and find it a very useful Machine, besides mixing powders, &c., well, it saves an immense amount of labour and time. —Yours truly BURTON & SON.



Nos. I. to IVa.



Nos. V. and VI.

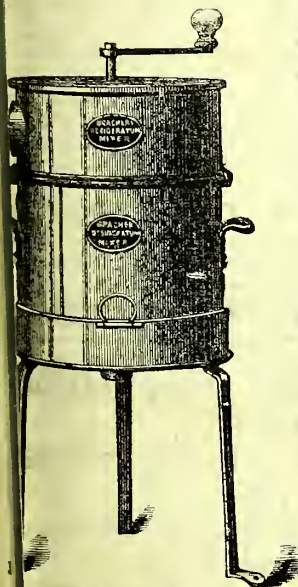
Francis Street and 11 Caroline Street, Hull, July 8, 1880.—Dear Sir,—The Mixing Machine of from you does its work thoroughly; I am pleased with it. —Yours truly, T. CHAPMAN.
6 Market Square, Aylesbury, July 10, 1880.—Dear Sir,—In reply to yours of the 7th, I beg to say that I have used your "Desideratum" Mixing Machine, and find it works most admirably. It thoroughly mixes, and prevents dust and dirt, and is a great "saver of time"—a great consideration where much business has to be done.—I am, dear sir, yours faithfully, J. TURNER.
Nova Scotia, Blackburn, July 13, 1880.—Gentlemen,—In answer to your inquiry, I have had your "Desideratum" Mixer in use for upwards of six months, and I may say that I find the said Mixer pleases me and answers my work well; in fact I sometimes fancy I could not possibly do without one of these Machines. —Yours truly, W. BUTTERFIELD.

Sheep Street, Sherborne, July 26, 1880.—Sir,—The "Desideratum" Mixing Machine I had of you some months since is a "Capital Invention," and no Chemist would be without one if he only knew its value. Being tightly covered, the powder cannot escape; it is simple in its use, easy to clean, and a great saving of time. —Yours respectfully, JOHN H. DALWOOD.

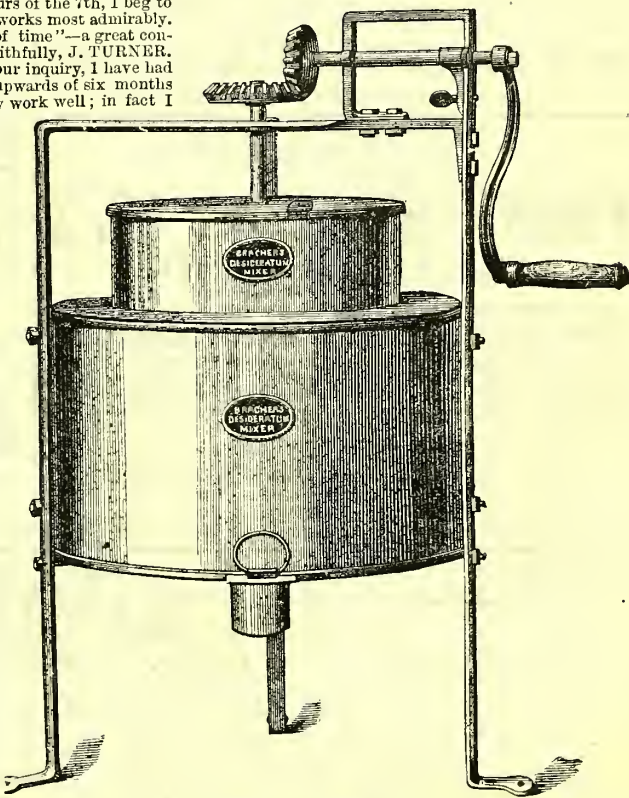
Totton, Southampton, July 24, 1880.—Dear Sir,—I find your "Desideratum" Mixing Machine very useful for mixing Powders, and is a saving both of time and labour. I have pleasure in recommending it. —Yours truly, J. B. FLETCHER.

6 Gwyn Street, Bedford, August 3, 1880.—Dear Sir,—I have had your "Desideratum" Mixer in use for some time, and find it answer my expectations fully. I recommend it to all in need of such a Machine. —Yours respectfully, F. W. CRICK.

Orwell House, Dovercourt, and 31 Tavern Street, Ipswich, August 9, 1880.—Gentlemen,—I am much pleased with the Mixing Machine I bought of you some few months since. It does its work thoroughly, and effects a considerable saving in time. —Yours truly, MARTIN D. KING.



Nos. I. to IVa.



Nos. V. and VI.

Mixers Nos. 5 and 6 are now supplied with Fly-wheels, and the Sieves are of much improved construction,

FURTHER PARTICULARS ON APPLICATION TO THE MANUFACTURERS,

P. H. BRACHER & CO., 77 High Street, WINCANTON.

Gold Medal, Paris Exhibition.

FRY'S COCOA EXTRACT,

IN PACKETS AND TINS.

Pure Cocoa only, with the superfluous oil extracted.

It is strongly recommended to all who appreciate the full flavour and fine aroma of Cocoa.

"It is strictly pure, and well manufactured in every way."—W. W. STODDART, F.I.C., F.C.S., *City Analyst, Bristol*."If properly prepared, there is no nicer or more wholesome preparation of Cocoa."—*Food, Water, and Air*, Edited by Dr. HASSALL.**J. S. FRY & SONS, BRISTOL & LONDON.**

TRY ALSO

FRY'S CARACAS COCOA.—"*A delicious preparation.*"A CUP OF DELICIOUS
INVIGORATING COFFEE
IN PERFECTION, by using**SYMINGTON'S
ESSENCE OF COFFEE,**

OR ESSENCE OF COFFEE AND CHICORY.

These Preparations are specially recommended as Unique, Wholesome, and Economic Dietetic Beverages, possessing rich Coffee aroma, but free from the TREACLY TASTE and BURN'T FLAVOUR always complained of in other such Essences.

London Agents, W. & C. Volckman, F. Newbery & Sons, Barclay & Sons, and Maw, Son & Thompson.

THOS. SYMINGTON & CO., Chemists,
BEAVERBANK WORKS, EDINBURGH.

MUSTARD.

FINCH, RICKMAN & CO.'S**Genuine Qualities**

Are made from the finest mustard seeds only. Their compounds, as manufactured for upwards of a century, are guaranteed free from all ingredients imparting spurious heat, and are therefore equally suitable for both table and medical purposes.

Undertake not to supply Co-operative Stores.

6 Broken Wharf, Upper Thames St., London.

PACKET TEA AGENCY.

Agents Wanted where unrepresented.

A Liberal Commission allowed.

RETAIL PRICES FROM 1/8 to 3/4 PER LB.

FOR TERMS APPLY TO

JOHNSON, JOHNSON & CO.,

WHOLESALE TEA DEALERS,

50 Southwark Bridge Road, London.

*Established nearly Quarter of a Century*Upwards of Five Thousand Agents now Sell these
Celebrated Teas.

CHEMISTS' TEA AGENCY.

WALKER & DALRYMPLE'S Broken-Leaf Tea

1s. 8d. per lb.

A money-saving tea. Absolutely pure. The small leaf from some of the finest Indian and China Teas. Produces a tea in the cup stronger, richer, and cheaper than most whole-leaf teas. Agents appointed, where unrepresented, throughout the United Kingdom.

WALKER & DALRYMPLE'S Intermediate Tea,

2s. per lb.

BEST at the PRICE EVER SOLD. Great strength, and a most useful tea where there is a large consumption. Recommended to all who wish to save in their tea. Agents appointed, where unrepresented, throughout the United Kingdom.

WALKER & DALRYMPLE'S TEAS.

Agents appointed, where unrepresented, throughout the United Kingdom. Prospectus and samples free on application.

Warehouses—154 and 155 Whitechapel Road, London.
P.O.O. payable at Head Office. Bankers—The National Provincial Bank of England.**BARON LIEBIG'S COCOA POWDER**
LEGUMINOUS. "A highly nitrogenous food rich in flesh-forming material."—*Lancet*.**BARON LIEBIG'S COCOA POWDER**
LEGUMINOUS. "Little else is required to form a perfect diet."—*Medical Record*. Prof.

TICHBORNE says—"The albumenoids are more valuable as flesh-formers than the gluten of wheat, the casein of milk, or the albumen of eggs." To be procured of Chemists and Grocers. Sold in tins at 1s., 2s., 3s. 6d., and 6s. 6d. each.

BARON LIEBIG'S COCOA POWDER
LEGUMINOUS. See that Baron H. v. LIEBIG

Signature is written in Red Ink across Labels, and that each tin is marked

BARON LIEBIG'S COCOA DEPOT, 7 IDOL LANE, LONDON

DELECTABLE JUJUBES, VOICE JUJUBES

GLYCERINE AND CHLORODYNE JUJUBES,

MEDICATED AND HIGH-CLASS LOZENGES

LIME FRUIT TABLETS, EVERTON TOFFEE,

ACID DROPS, and Best Quality BOILED SUGARS of every kind

FRAGRANT BOUQUET LOZENGES, 300 in an ounce, have an immense sale.

GIBSON'S (ORIGINAL) CHLORODYNE LOZENGES.

SUGAR WORM CAKES; keep in any climate; suitable for either Children or Adults.

MANUFACTURED BY

ROBERT GIBSON, CARLTON WORKS, HULME, MANCHESTER,**And 1 AUSTRALIAN AVENUE, LONDON.**

Price Lists sent on application. Our Goods can be bought through any Wholesale House in London



old by Chemists everywhere.

MAWER'S TARAXACUM OR DANDELION COFFEE

Prepared from the Fresh Root,

IN TINS, 6d., 9d., 1s., 1s. 6d., and 2s.,

Is by far the best in the market. Excellent in quality, neatly packed, cheap and economical, and a very saleable article. Beware of worthless imitations.

A LARGE BUYER writes:—"Our customers ask for Mawer's Taraxacum, and will have no other, and we are doing well with it."

A NOBLE EARL, the oldest in the House of Peers, sends the following message:—"Present my compliments to Mr. Mawer, and tell him I like his Taraxacum, and that it agrees with me very well; and request him to send the usual number of tins."

Terms and Price Lists on application to the Manufacturer—

EDWARD MAWER,

Chemist,
HIGH WYCOMBE, BUCKS.

Handbills and Show Cards supplied gratis.

E. LAZENBY & SON

(6 EDWARDS STREET, PORTMAN SQUARE.) Sole Proprietors of the Celebrated Receipts and Manufacturers of the Pickles, Sauces and Condiments so long and favourably distinguished by their name, beg to remind the public that their labels are affixed to the choicest description of goods only, that every article prepared by them is guaranteed as entirely unadulterated and may be obtained of Grocers, Italian Warehousemen and others.

HARVEY'S SAUCE.—CAUTION.—The admirers of this Celebrated Sauce are particularly requested to observe that each bottle bears the well-known label signed "ELIZABETH LAZENBY"; this label is protected by perpetual injunction in Chancery of the 9th July 1858 and without it none can be genuine.

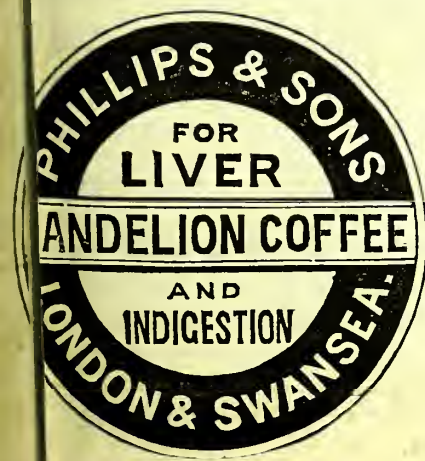
18 TRINITY STREET, LONDON. S.E.

Elizabeth Lazenby

PEPSINE SAUCE.

Specially suited for sale by Chemists, and a preparation which they can confidently recommend as superior both in flavour and virtue to all other sauces.

Sole Maker—J. LORIMER, Manufacturing Chemist,
JUNCTION ROAD, LONDON, N.



ESTABLISHED 1760.

Contains three times the strength of ordinary Breakfast Beverages.

ONCE TRIED ALWAYS USED.

The valuable properties of the Dandelion Root, recognised by eminent Physicians for many centuries, has now become an article of daily use.

Sold by all Chemists throughout the Kingdom in Tins at 1s. 6d., 1s., 9d., and 6d.—Price Lists on application to the Manufacturers,

PHILLIPS & SON,
CASTLE SQUARE, SWANSEA,
AND ARTHUR STREET WEST, LONDON BRIDGE;

OR OF

JAS. WOOLLEY, SON & CO., Manchester.
W. MATHER, Export Agent, London.
CLARKE & McMULLAN, Belfast.
GOODALL, BACKHOUSE & CO., Leeds.
McMAISTER & HODGSON, Dublin.

EVANS, SONS & CO., Liverpool, &c.
MAW, SON & THOMPSON, Aldersgate Street, London.

BURGOYNE, BURBIDGES & CYRIAX,
16 Coleman Street

BARCLAY & SONS, Farrington Street.

COLONIAL AGENTS.—Melbourne, Adelaide, and Sydney—P. T. FALK; BLYTHE & CO. New Zealand, Nelson, Canterbury, Auckland—A. SCLANDERS & CO.; E. & A. ISAACS. Adelaide—F. H. FAULDING & CO. Cape, Algoa Bay, East London—L. DREYFUS.

SPECIAL TERMS TO MERCHANTS AND SHIPPERS.

HUNYADI JÁNOS APERIENT WATER.

CAUTION.

Circumstances which have come to the knowledge of Andreas Saxlehner, Buda Pest, Sole Proprietor of the Hunyadi János Spring compel him to WARN the British Public against SPURIOUS IMITATIONS. To secure genuineness, purchasers should see that every bottle has on the LABEL the name of "THE APOLLINARIS COMPANY (LIMITED), London."

LAMPLOUGH'S EFFERVESCENT PYRETIC SALINE.



HAVE IT IN YOUR HOUSES AND TRAVELS, USING NO OTHER SALINE; it gives instant relief in Headaches, Sea or Bilious Sickness, and quickly cures the worst form of Eruptive or Skin Complaints. The various diseases arising from Constipation, the Liver, or Blood Impurities, Inoculation, the results of breathing air infected with Fevers, Measles, or Smallpox, are frequently prevented and certainly cured by its use.

The sale of these Saline Salts having greatly increased during the past few years, I beg most cordially to thank those who sell and recommend the same, and also to inform intending dealers that they will find Messrs. BARCLAY, EDWARDS, MAW, NEWBERRY, SANGER, SUTTON, and the Wholesale Houses generally, ready to supply their wants. This Advertisement is found needful in consequence of the trouble, cost, and inconvenience in the keeping and collection of numerous small accounts. *Note.*—The Name, Trade Mark, Labels, Wrappers, &c., are all Registered and Entered at Stationers' Hall.

113 HOLBORN HILL, LONDON, E.C.

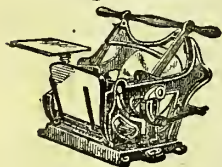
SPECIAL NOTICE.—Medical Gentlemen having fever cases, and desirous of trying the Saline, can have a single bottle at wholesale prices by sending their cards.



THE CONDY'S FLUID CO., 7 Falcon Street, London.

BEWARE OF MEAN AND ACTIONABLY FRAUDULENT IMITATIONS OF OUR FIRM AND GENUINE PRIZE MEDAL LABELS, WITH FICTITIOUS ADDRESSES.

Sydney Exhibition.—PRIZE MEDAL Awarded to THE SIMPLISSIMUS SELF-INKING PRINTING PRESS CHEAPEST, SIMPLEST, AND BEST.



CHEMISTS, PRINT YOUR OWN LABELS AND HANDBILLS. Send for our NEW ILLUSTRATED CATALOGUE, 108 Illustrations, Presses, Paper Cutters, Type and material used by Printers, with a vast quantity of information never before published post free. Eclectic Handbook of Printing, 1s. 1d. (Second Edition now in Press). Specimen Book of Type and Ornament (400), 7d. PRESSES FROM £2.

BIRMINGHAM MACHINISTS CO., Great Queen Street Works (Side of New Street Station), Birmingham

"Let those now Print who never did before, and those who always Printed Print the more."

THE PATENT "BISSCHOP" GAS-ENGINE

POWER.	PRICE. Carriage Extra.	Space Occupied.	Height.	Revolutions per minute.	Consumption of Gas per hour.	Approximate Cost of Gas per hour.
One Man	£25	2ft. 4in. x 2ft.	4ft.	100 to 140	12 cu. ft.	1d.
One and Half Man	£30	2ft. 4in. x 2ft.	4ft.	100 ,, 130	17 "	1d.
Two Man	£35	2ft. 9in. x 2ft.	4ft. 8 in.	90 ,, 120	21 "	1d.
Four Man	£50	4ft. x 2ft. 6in.	6ft.	80 ,, 90	28 "	1d.

*The Simplest, the Most Economical, and the Most Efficient
Small Motive Power in Existence.*

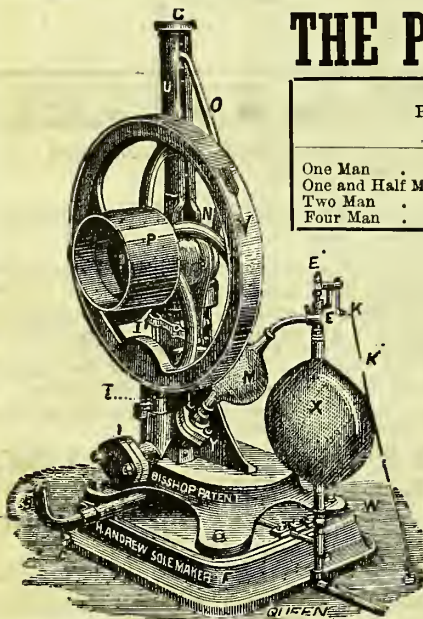
**EXTENSIVELY IN USE FOR TURNING SODA
WATER MACHINES.**

*No Water. No Separate Meter. No Lubrication of the
Cylinder or Slide Valve. A Boy can Manage it.*

Average Weekly Sale - - 12 Engines.

J. E. H. ANDREW,
18 and 20 WATERLOO ROAD, STOCKPORT
Sole Manufacturer for the United Kingdom.

TESTIMONIALS ON APPLICATION.



INDEX TO ADVERTISEMENTS,

See Pages 45, 46.

NESTLE'S MILK FOOD,

For Infants, Children, and Invalids.

London Depot—7 BARBICAN, E.C.

NESTLE'S MILK FOOD is prepared at Vevey, Switzerland, from the pure milk of Alpine fed cows, the finest wheaten flour and sugar, combined in exact proportions to imitate closely the natural food for infants. It is thoroughly cooked, and reduced to a fine powder, perfectly soluble in water, requires only the simple addition of water to prepare it for use—in this respect having the advantage over all other foods.

NESTLE'S MILK FOOD is highly recommended by the best medical authorities in all parts of the globe as a perfect diet. Nestle's is the original and genuine Milk Food or Powder.

NESTLE'S MILK FOOD is put up in tins, packed in lined cases specially for the export trade. Is highly concentrated and in a perfectly dry state. Will keep good in any climate.

Our Wholesale Agents at any port will pack and ship the Food to or for any part of the world.

Wholesale Depot: HENRI NESTLE, 7 BARBICAN, LONDON.

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V.-C. MALINS
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ary 15, 1877,
page 76.

Wholesale Price
Lists, Opinions
of the Press, and
full information
will at all times
be given direct,
or through the
Patent Medicine
Houses.

Samples and Prices on application to the Manufacturers,
GEORGE NELSON, DALE & Co.,
14, DOWGATE HILL, LONDON, E.C.

IN PINT
& QUART PACKETS.

Beef & Peas
Beef & Lentils
Beef & Carrots
Beef & Celery
Beef & Onions
Mulligatawny
MILK OR
CHILDREN'S SOUP

EACH PACKET IS SIGNED
Geo. Nelson

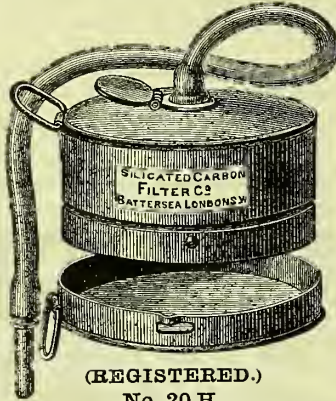
Samples and Prices on application to the Manufacturers,
GEORGE NELSON, DALE & Co.,
14, DOWGATE HILL, LONDON, E.C.

NOVELTY. SILICATED CARBON POCKET FILTER,

IN GERMAN SILVER, NICKEL-PLATED.

Retailed at FIVE SHILLINGS each.

Designed by
MAJOR FRASER,
of the
ROYAL ENGINEERS,
especially
for Officers' Kits.
Weighs only 8 ounces.



(REGISTERED.)

No. 20 H.

It has been approved
by the
Authorities at the
Horse Guards, and has
been largely
used in the Afghan and
Zulu Expeditions.

Sample sent free by Post on receipt of FOUR SHILLINGS.

DOMESTIC FILTER, NO. 27.



Made in cream-coloured Stoneware, fitted with the Silicated Carbon Media, complete with Cover and Silver-plated Tap.
All sizes of this pattern can now be had with Patent Ice Compartment, which renders this Filter the most perfect of Refrigerators.

	PRICES.	With Ice Compartment.
No. 0, capacity $\frac{1}{2}$ gall. ..	10s. 6d. ..	—
No. A, " 1 " ..	14s. 6d. ..	17s. 6d.
No. B, " 2 " ..	21s. 0d. ..	25s. 0d.
No. C, " 4 " ..	32s. 0d. ..	36s. 0d.
No. D, " 6 " ..	42s. 0d. ..	48s. 0d.
No. E, " 8 " ..	52s. 0d. ..	60s. 0d.
No. F, " 12 " ..	70s. 0d. ..	80s. 0d.

UNIQUE STONEWARE FILTER, NO. 28.

No House should be considered as thoroughly furnished until it is supplied with one or more good Filters.

No Water should be used for Drinking or Cooking without being Filtered.

This Filter is made of a New Ornamental Stoneware, similar in shape to the Domestic Filter, and of two-gallon capacity. When arranged in a Hall or Conservatory, side by side with evergreens, the effect is very pleasing.

Price, with Silver-plated Tap, 30s.



MAIN SUPPLY FILTER, NO. 40.

SPECIALLY ADAPTED FOR
Mansions, Schools, Hospitals, Public
Institutions, Breweries, Distilleries,
Soda Water Manufactories,
Dye Works,

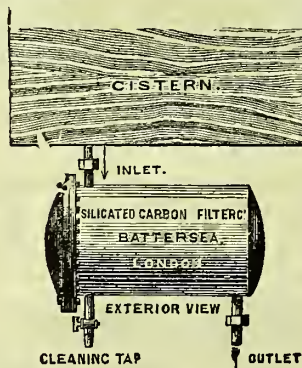
And all other Establishments where large quantities of

PURE WATER

Are required.

The ordinary Sizes kept in Stock are as follows:—

A, $\frac{1}{2}$ -inch or $\frac{3}{4}$ -inch pipe ..	£6 6s.
B 1-inch pipe ..	£9 9s.
C, $1\frac{1}{2}$ -inch, $1\frac{3}{4}$ -inch pipe ..	£15 15s.
D, 2-inch pipe ..	£26 6s.



This Filter is extremely simple in construction and can be either connected with a Cistern attached to the Main Service Pipe. It requires no attention beyond an occasional opening of the Cleansing Tap, and will deliver a supply of purified water at a rate of 50 to 100 gallons per hour, according to size.

Special Contracts entered into
for Large Works, Institutions
&c., &c.,

FOR PURIFYING THE WHOLE OF THE WATER SUPPLY OF A BUILDING BEFORE USE.
Ensuring Rapid and Perfect Filtration, at either High or Low Pressure.

SILICATED CARBON FILTER CO., CHURCH ROAD, BATTERSEA, LONDON.

PARIS: 131 Boulevard Sebastopol.

NEW YORK: 194 William Street (H. R. Mensing, Agent).

HAMBURG: 9 Deichstrasse (Joseph Schmutzer & Co., Agents)

SILICATED CARBON FILTERS.

SYPHON FILTERS FOR TRAVELLERS.

By means of these filters pure and perfectly wholesome water may be drunk from any pond or stream by simply immersing the filter therein and drawing the water through the tube by suction. Each of these portable Filters may be



No. 20.

used as a Syphon by placing it in a vessel of water, then drawing the water by the mouth, and allowing the flexible tube to hang over the side below the Filter. When once set in operation their action is continuous.

They are readily cleaned from sedimentary matter by merely drawing through the tube, and brushing the surface of the filtering medium.

Pocket Filter, 2½ inches diameter, in porcelain, with glass mouthpiece, in decorated metal box	2 6
Ditto, 3½ inches diameter, in best stoneware	5 0
Ditto, " " with silver-plated tap	7 0
Emigrant's, 5 inches diameter, with silver-plated tap	12 0
Pocket Filter, for carrying over shoulder, as supplied to the Forces in Abyssinia and in Zululand, and to the Ashantee Expedition	8 6
Ditto, nickel-plated, designed by Major Fraser, R.E., and specially recommended by the Horse Guards for Officers' kits	5 0

TABLE FILTER, NO. 24.

Made of stout glass, in 1, 2, and 3 pint sizes, the filtering medium being securely fitted into the bell-funnel, so that it is not liable to become loose, or to allow unfiltered water



to pass. This Filter is peculiarly suited for the Bedroom and for Table use, affording a ready and simple means of obtaining at any time freshly-purified water.

PRICES.

O, 2s. 6d.; A, 4s.; B, 5s. 6d.
Engraved Vine Pattern—O, 3s. 6d.; A, 5s. 6d.; B, 7s. 6d.

POROUS TERRA COTTA FILTER, NO. 29.

Shape of this Filter as Fig. No. 24.

O, 2s. 6d.; A, 4s.; B, 5s. 6d.

SILICATED CARBON BLOCKS.

2 in., 1s. 6d.; 2½ in., 2s. 6d.; 2¾ in., 3s.; 3½ in., 4s.; 4¾ in., 5s. 6d. ea.
SPECIAL QUOTATIONS FOR QUANTITIES.

PRIZE FILTER,

This Filter is constructed in the form and colour of an Etruscan Vase, having inside it a movable pan, into which the Silicated Carbon filtering medium is fitted.



PATTERN NO. 23.

The exterior is made of Porous Ware, which acts with remarkable power as a Refrigerator, keeping the water deliciously cool. Capacity, about Two Gallons.

PRICE, WITH SILVER-PLATED TAP, £3 10s.

DINING-ROOM FILTER,

No. 22.

MADE IN MARBLED CHINA.

Size A holds about two gallons; size B, five gallons.

PRICES.

A	35s.
B	80s.
A, with Ice Compartment (New Patent)	42s.
B, with Ice Compartment (New Patent)	100s.

The large size (B) is specially adapted for Hotels, Refreshment Rooms, Luncheon Bars, &c.

REFRIGERATOR FILTER, NO. 25.

Made in Porous Terra-Cotta Ware,

Which acts with remarkable power as a cooler, and renders this Filter invaluable, especially in Tropical Climates,

AFFORDING A

COOL DRAUGHT OF PURE WATER.

Price, with Silver-plated Tap 81s. 6d.
Ditto, ditto, with Ice Compartment 42s. 0d.
Capacity, Two Gallons.

Specially adapted for Tropical Climates.



PORTABLE FILTER, No. 34, for Travellers at Hotels, Families at the Seaside, Pic-nics, &c. Made in Marbled Porcelain, with Cover. Can be placed in a jug, decanter, or other vessel. Price 7s. 6d. each.

SILICATED CARBON FILTER CO., CHURCH ROAD, BATTERSEA, LONDON.

Sparkling Phosphate

A delicious Nervine Tonic Beverage, Non-alcoholic, Stimulating, Invigorating, Refreshing. The original preparation containing Hypophosphites. Superior in composition and effect to any other article of its kind. Is the most agreeable aerated beverage extant. Sells well wherever introduced. Bears a good profit.

COMPOSITION CERTIFIED BY PROFESSOR ATTFIELD.

Wholesale Prices in quantities of not less than 1 Gross (for cash):—Half-pint Seltzer Bottles, 2/6 per doz.; retail, 4/6. Small Champagne Bottles, 3/- per doz.; retail, 4/6. Large Champagne Bottles, 5/2 per doz.; retail, 7/6.

2d. per doz. additional in quantities of less than 1 gross.

Delivered free in London by our own Vans. Packed for the country in bin cases of 6 dozen small bottles or 3 dozen large. 1/- dozen charged and allowed for bottles. Packing case, 6 dozen seltzer, 3/-; 6 dozen small champagne, 3/6; 3 dozen large ditto, 3/6. Carriage paid to the country on orders for 6 dozen small or 3 dozen large, if accompanied by remittance including bottles and cases. Full price allowed for bottles and cases if returned free in good condition.

WHOLESALE AGENTS:

LONDON—Messrs. Barclay & Sons.
" " Lynch & Co.
" " W. Best & Sons.

LONDON—Messrs. S. Maw, Son & Thompson.
" " Herrings & Co.

BIRMINGHAM—Messrs. Southall Brothers & Barclay.
EXETER—Messrs. Evans, Gadd & Co.

Sole Proprietors and Manufacturers, **IDRIS & COMPY.,** Manufacturers of Pure Mineral Waters of every description.

AGINCOURT WORKS, MANSFIELD ROAD, HAVERSTOCK HILL, LONDON, N.

J. H. CUFF'S MINERAL WATERS, Atkinson St., Deansgate, MANCHESTER.

ESTABLISHED IN 1801.

SODA WATER (ordinary)	LEMONADE
SODA WATER B.P.	GINGER ALE
SELTZER WATER	GINGER BEER
LITHIA WATER	AERATED WATER
POTASS WATER	without alkali
15 grs., 20 grs., & 30 grs.	QUININE TONIC
(each half-pint)	WATER

LITHIA WITH POTASS WATER, &c., &c.,

Supplied in ordinary and half-sized bottles and in syphons.

Cuff's Waters are prepared expressly for a High-class Family Trade.

PRICES MOST REASONABLE.
LIST FREE ON APPLICATION.

CARRIAGE PAID ON FULL GOODS
AND RETURNED EMPTIES.

NEW AND IMPORTANT DISCOVERY.

GINGER ALE

From Pure Jamaica Ginger.

The difficulty of using Ginger in the manufacture of "Ginger Ale," at the same time having a CLEAR and SPARKLING DRINK, has, much labour and expense, been thoroughly overcome by

Messrs. HARSTON & CO., of LEEDS.
And they are now able to place before the public a BRIGHT and SPARKLING DRINK, made purely from genuine Ginger Root.

TRADE MARK.



TRADE MARK

Registered Label.]

HARSTON & CO.'S

Ginger Ale, from Pure Jamaica Ginger. Carries a beautiful creamy d.

HARSTON & CO.'S

Ginger Ale, from Pure Jamaica Ginger. Wholesome and Refreshing.

HARSTON & CO.'S

Ginger Ale, from Pure Jamaica Ginger. A safe Drink for Ball-Cricket-field.

HARSTON & CO.'S

Ginger Ale, from Pure Jamaica Ginger. For railway travelling, or exposure to cold.

HARSTON & CO.'S

Ginger Ale, from Pure Jamaica Ginger. Has wonderful nourishing properties.

HARSTON & CO.'S

Ginger Ale, from Pure Jamaica Ginger. Restores Circulation; is safe and Comforting.

HARSTON & CO.'S

Ginger Ale, from Pure Jamaica Ginger. Is Non-Intoxicating.

HARSTON & CO.'S

Ginger Ale, from Pure Jamaica Ginger. Recommended by the Medical Profession for Consumptive Patients.

ZOEDONE

A DELICIOUS BEVERAGE.

The BRITISH MEDICAL JOURNAL says:—

"We can confidently recommend it to the attention of physicians and others who are occasionally at a loss what to direct patients to take when parched by feverish thirst or depressed by exhausting ailments—notably in cases where alcoholic stimulants would be prejudicial. We feel that it would be found exceedingly useful in mitigating the discomfort oftentimes experienced by those suffering from the thirst, loss of appetite, and general *malaise* connected with the last stage of phthisis chronic bronchitis.

"We would also, from our observations and experience, advise its introduction into clubs, taverns, and places of public amusement, where it would judiciously supersede vinous and alcoholic stimulants, seeing that it contains, as its name implies, life-giving ingredients in a form easily assimilated."

A BRAIN & NERVE TONIC.

The LANCET says:—

"ZOEDONE contains the soluble phosphates of lime, iron, soda, and potash, in medicinal quantities. Very efficient and pleasant."

The MEDICAL PRESS AND CIRCULAR says:—

"Is commendable equally for the style in which it is put up and the delicate flavour which it possesses, and also on account of its special merits as a nervine tonic."

NON-ALCOHOLIC.—STIMULATES by STRENGTHENING.

Every Chemist that has introduced ZOEDONE has found a large and regularly increasing sale for it. It is put up in Champagne Bottles, and there is no trouble with empties, as the bottles are included in the price. Customers supplied with Pamphlets for distribution; also a special Circular for medical men stating the formula.

ZOEDONE is admirably adapted for hot climates.

ZOEDONE is supplied on the following Terms, Cash Prices, free on Rails at Wrexham:—

ALL Champagnes,	6/6 per dozen (EXPORT,	7/0 per dozen),	in 6 dozen cases.	
"	6/8	"	7/2	" 3 "
"	6/9	"	7/3	" 2 "
"	6/10	"	7/4	" 1 "
ARGE	12/0	"	13/0	" 3 "
"	12/6	"	13/6	" 1 "

Bottles and Packages included.

Application for Trade Terms should be accompanied by Business Card.

WHOLESALE AGENTS:—

<p> London—Allen & Hanburys. Barclay & Sons. W. Best & Sons. Burgoyne, Burbidges, Cyriax & Farries. Corby, Stacey & Co. Edwards & Sons. Evans, Lescher & Evans. Hearon, Squire & Francis. Ingram & Royle. Lynch & Co. S. Maw, Son & Thompson. F. Newbery & Sons. Probyn & Co. Savory & Moore. Wright, Layman & Umney. </p>	<p> ABERDEEN—W. Paterson & Sons. BELFAST—Grattan & Co. BIRMINGHAM—Southall Bros. & Barclay. BRADFORD—Harrison, Parkinson & Co. BRISTOL—Ferris & Co. CHELTENHAM—Joseph James. CORK—W. & H. Goulding. " T. R. Lester. COVENTRY—Wyleys & Co. DUBLIN—Hamilton, Long & Co. " Johnson & Oldham. " A. & R. Thwaites & Co. EDINBURGH—Duncan, Flockhart & Co. " John Mackay & Co. EXETER—Evans, Gadd & Co. GLASGOW—The Glasgow Apothecaries' Co. </p>	<p> HULL—Lofthouse & Saltmer. LANCASTER—W. H. Bagnall & Co. LEEDS—Goodall, Backhouse & Co. LEICESTER—John Richardson & Co. LIVERPOOL—Clay, Dod & Case. " Evans, Sons & Co. " Raimes & Co. " R. Sumner & Co. " Clay & Abraham. " Symes & Co. MANCHESTER—James Woolley, Sons & Co. NEWCASTLE-ON-TYNE—Brady & Martin. NICE—J. Daniel. NORTHAMPTON—Frederick Kirby. PARIS—Hogg, 2 Rue Castiglione. YORK—Henry J. Pratt. </p>
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Retail Agents whose names are not on the published list should communicate with the Manager.

PATENTEE—DAVID JOHNSON, F.C.S. MANAGER—JOHN MOSS, F.I.C., F.C.S.

Manufacturers—THE ZOEDONE COMPANY (Lim.), Wrexham, North Wales.

LONDON OFFICE: 25 ABCHURCH LANE, E.C.

NOTE.—ALL orders for the Company must be sent to Wrexham.

SOLD IN SMALL CHAMPAGNE BOTTLES

3d. per dozen allowed for empty bottles when actually received; also 1/6 for large cases and 1/1 for small.



REGISTERED

Sparkling
Phosferrade *A*
delightful
Tonic
Beverage containing
Phosphates, Iron, &c.
Free from Alcohol
Manufactured by
Harvey, Reynolds & Co, Leeds

RETAIL PRICES as follows:—
6 dozens (case included) 33/
3 " " 17/6
Per dozen (packing extra if required) 5/6

The increasing demand for first-class substitutes for alcoholic Liquors has induced H. R. & Co. to introduce the above elegant preparation. PHOSFERRADE contains in a most assimilable form the valuable Tonic, Restorative, and Invigorating properties of Iron, Phosphates, &c. Taken with meals it stimulates the appetite and assists digestion. At all times it will be found to be a delightful and grateful beverage, and admirably suited for evening parties or other social occasions. PHOSFERRADE is strongly commended to the notice of those whose mental and physical powers are over-strained by much brain work.

TRADE TERMS ON APPLICATION to the Sole Proprietors and Manufacturers,
HARVEY, REYNOLDS & CO
14 Commercial Street, and 13 Briggate, LEEDS.

JEWSBURY & BROWN'S
MANCHESTER
MINERAL WATERS,
PURE SODA, SELTZER, POTASH, LITHIA, &c.,
LEMONADE,
GINGER ALE, AND QUININE TONIC.

Prepared and Bottled specially for Export, and warranted to keep well.

Manufactured with the utmost care and by improved machinery, these productions are recommended for purity and excellence of quality by many leading members of the Medical Profession, and have for many years had a preference by the public; the flavour of the Lemonade and Ginger Ale being procured from the fresh Fruit and Finest Jamaica Ginger, they may be relied upon as furnishing delicious and satisfactory beverages, either for general use or specially for invalids.

The Soda Water is absolutely free from any metallic impregnation, and being by improved machinery highly charged with Carbonic Acid Gas, and each bottle containing a definite and unvarying proportion of Pure Carbonate of Soda, J. & B. have every confidence in inviting a trial from those who have not already patronised them.

The Seltzer, Potash, and Lithia Waters are prepared with the utmost exactitude and the purest ingredients.

The New Quinine Tonic furnishes a pleasant form for the administration of a most valuable restorative, and is refreshing and agreeable.

Ginger Ale (Aromatic) of superior quality, and strongly recommended as a Non-Alcoholic and warm stimulant beverage.

N.B.—Every Bottle is protected by a distinctive Label, with Name and Trade Mark, and each Cork is branded.

Counter Bills and Analytical Reports, with Agents' Names and Addresses, supplied when requested.

JEWSBURY & BROWN, 44 Downing Street, 3 Grosvenor Street, and 113 Market Street, **MANCHESTER**.

A CERTIFICATE OF MERIT, for superiority of quality, was awarded to Jewsbury & Brown at the Exhibition of Sanitary Appliances, at Owens College, Manchester, on the occasion of the Meeting of the British Medical Association, August, 1877.

A CERTIFICATE OF MERIT awarded by the British Medical Association, after a deferred trial.

THE CHEMISTS' AERATED & MINERAL WATERS ASSOCIATION

(LIMITED),

Offices & Factories—45 GIFFORD STREET, and 112 PEMBROKE ST., CALEDONIAN ROAD, LONDON; and HARROGATE.

Incorporated with limited liability, under the Companies' Acts, 1862, 1867, and 1877, whereby the liability of Shareholders is strictly limited to the actual amount of their respective Shares.

The objects of this Association are—Firstly, to manufacture and supply to Shareholders who are Chemists, and to Hospitals, Aerated and Mineral Waters of specified formulæ and guaranteed quality. Secondly, to deal generally in the Waters of the various natural springs in Great Britain.

The Association, which is conducted on the cash co-operative principle, is now thoroughly established on a sound basis and is supported by over 400 Shareholders. Only 18 £1 Shares at 5s. premium remain unallotted—£10 shares at par.

KISSENGEN (HARROGATE) WATER,

THE ONLY NATURAL APERIENT TONIC IN BRITAIN.

Chemists will do well to introduce this Water to their Customers and Medical Profession. Pamphlets, with Analysis and particulars, on application. The Branch at Harrogate is now supplying Aerated Mineral Waters, and also the Natural Waters of the Kissingen and Sulphur Springs.

RUBINE or BARK BEER,

Attention is drawn to this Speciality, a pleasant and effective beverage, manufactured from the Red Bark, now so largely known in the United States for alleviating the craving for alcoholic stimulant from which so many suffer. For Prospectus and full particulars apply to the Offices of the Association.

Chemists will readily perceive the advantage of pushing the sale of the Association Waters, as the trade they establish cannot be taken away by competition of other tradesmen, Chemists only being supplied with the Manufactured Waters.

H. T. BUTLER, Secretary.

TO THE MINERAL WATER TRADE.

DISCS FOR ALL PATENT BOTTLES.

These are a great convenience, strengthening the Cap Labels, and keeping the lips of the Bottles free from dirt. The following sorts are kept in stock:—

"PLAIN" DISCS,

Size of this Circle, on Stout Boards, no Printing.

Price—5,000, 8d.; 10,000, 7d.; 25,000, 6d.; 50,000, 5d.; 100,000, 4d.
per 1,000.

"GROTESQUE" DISCS,

Printed on good Cardboard in Blue Ink; they consist of a great variety of Amusing Figures.

Price—5,000, 1s.; 10,000, 11d.; 25,000, 10d.; 50,000, 9d.; 100,000, 8d.
per 1,000.



"MOTTO" DISCS,

Printed on Stout Boards in Black Ink; they consist of an immense variety of Mottoes and Well-known Sayings.

Price—5,000, 9d.; 10,000, 8d.; 25,000, 7d.; 50,000, 6d.; 100,000, 5d.
per 1,000.

"QUOTATION" DISCS,

Printed on good Cardboard, Lake Ink; they consist of an immense number of Quotations from Shakespeare, Byron, Milton, Burns, &c., &c.

Price—5,000, 1s.; 10,000, 11d.; 25,000, 10d.; 50,000, 9d.; 100,000, 8d.
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GIVE US A TASTE.
OF YOUR QUALITY
SHAKESPEARE

HONESTY
IS THE
BEST POLICY.

All the above are assorted in Boxes of 5,000, each Box containing an immense assortment. Price and Samples submitted for all kinds of Labels, and also for Show Cards, Circulars, Price Lists, and all printed matter required in the business.

J. B. LAMBE & CO.,

PRINTERS TO THE MINERAL WATER TRADE,

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THE LEAMINGTON APNEUMATIC MINERAL WATER

Apneumatic Soda Water.
Apneumatic Brighton Seltzer.
Apneumatic Potass Water.



Apneumatic Lithia Water.
Apneumatic Aerated Water.
Lemonade.

GINGER ALE (Aromatic). ORANGE CHAMPAGNE

GUARANTEED FREE FROM ALL IMPURITIES.

Our terms are more favourable for a family trade than those of any first-class makers.

KINMOND & CO., LATE J. DAILY & CO., LEAMINGTON

Trade List and Descriptive Pamphlet of the Apneumatic process free on application.

FOREIGN MINERAL WATERS.

FREDERICKSHALL, (5 Cases, 6d. per Case less), 24/6 Case, 30 bot.; 34/ Case, 60 1/2-bot.

APOLLINARIS (20 Hprs., 1/- per Hpr. less), 25/ Hpr., 50 bot.; 39/ Hpr., 100 1/2-bot.

Camper free, carriage paid; Empty Bottles, 6d. per dozen.

HUNYADI JANOS (10 Cases, 1/2-bts., 5/- less; 10 Cases, bts., 3/- each less), 30/- Case, 25 bts.; 50/- Case, 50 1/2-bts.

ELTZER ... 11/6 Hpr., 25 bts.

" ... 15/6 Hpr., 50 1/2-bts.

PULLNA ... 18/- Case, 20 bts.

" ... 30/- Case, 50 1/2-bts.

VICHY ... 31/- " 50 bts.

" ... 27/- " 50 1/2-bts.

CARLS AD ... 37/6 " 50 bts.

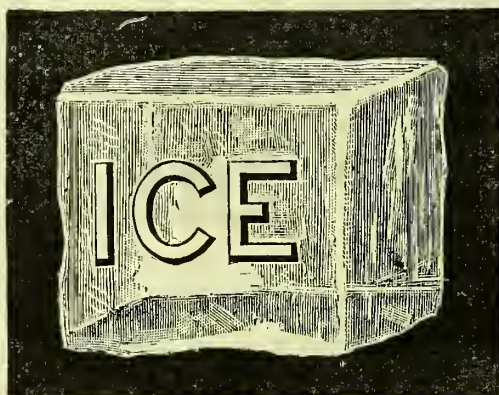
KISSENGEN ... 45/- " 50 "

SCHWALLBACH ... 26/6 " 50 "

HOMBURG ... 37/6 " 50 "

WILDUNGEN ... 40/- " 50 "

CARLSHAD SALTS, 1/2-Bots., 21/- per doz.; 1-Bots., 41/- per doz.; Bot., 80/- per doz.



FINE NORWEGIAN BLOCK ICE.

ORIGINAL BLOCKS, 2 to 3 cwt. 2/6 per cwt.

1 cwt. to 2 cwt. ... Under 1 cwt. ...

Packing and Mats for Original Block 3d. each allowed for Mats if returned condition.

PRINTED DIRECTIONS for ICE sent free on application.

W. B. HARRISON
IMPORTER OF ICE
MINERAL WATER
6 Bridge Street, Sunderland.

FOREIGN MINERAL WATERS.

FOREIGN LIQUEURS.

FOREIGN WINES.

FOREIGN SPIRITS OF EVERY DESCRIPTION.

ANGOSTURA BITTERS.

APPLY TO

JAMES SMITH & COMPANY, IMPORTERS,

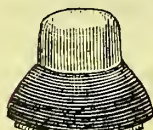
LIVERPOOL: 9 LORD STREET.

VALLET'S PATENT.

Fig. 1.



Fig. 3.



New Stop

The Stoppers are made in six different sizes—Nos. 1, 2, 3, 4, 5, and 6. Nos. 4, 5, and 6 are most suitable for general use, the Bottles adapted to which having sufficient capacity in the mouth to allow a copious flow of the liquid, whilst Nos. 1, 2, and 3 are specially made for Bottles which have only a small mouth, thus retarding the flow of the liquid, and causing the evaporation of the carbonic acid gas before the Bottle can be emptied.

ROYALTY FREE.

All Communications to be addressed to

L. VALLET, 49 Everton Road, LIVERPOOL.

Fig. 2.—THE STOPPED AND FITTED BOTTLE.



HAY'S SOLUBLE ESSENCE OF JAMAICA GINGER

(GUARANTEED PURE AND FREE FROM CAPSICUM).

Trade Price, 5s. per lb.

highly adapted for the manufacture of *Transparent Aërated Waters*, and for all *Dietetic, Medicinal, and Pharmaceutical* Purposes. THE COST in the manufacture of GINGER BEER, &c., is a little under 2½d. per dozen bottles.

Medical and other opinions on the Soluble Essence.

"Singularly free from resin."—*The Lancet*.

"It should entirely supersede the official preparation of the British Pharmacopœia."—*Medical Press*.

"It is a pure, elegant preparation, and is free from any matter."—*Medical Times and Gazette*.

"It is a pharmaceutical desideratum."—*The Chemist Druggist*.



Medical and other opinions on the *Ginger Beer made from the Soluble Essence*.

"An excellent effervescing drink."—*The Lancet*.

"Preferable to some wines we have tasted under the name of champagne."—*Medical Press*.

"Clear and transparent, and very pleasing to the palate."—*Medical Times and Gazette*.

"Has the purest Jamaica Ginger aroma, distinguishable as soon as poured out. It is a beverage fit for any gentleman's table, and ought to attain great popularity."—*The Chemist and Druggist*.

"Stands in the foremost rank of Aërated Waters."—*Mineral Water Trade Recorder*.

THE COMPOUND ESSENCE

(GUARANTEED PURE AND FREE FROM CAPSICUM).

Trade Price, 5s. 6d. per lb.

This Essence, which is an addition of *Vanilla, Lemon, and other flavours* to the above, is strongly recommended for the manufacture of *Ginger Beer, Wines, &c.*, to which it imparts with the GINGER a PECULIARLY FINE FRUITY FLAVOUR AROMA. THE COST of this Essence in the manufacture of *Ginger Beer, &c.*, is a little under 3d. per dozen bottles.

THE COMPOUND FORTIFIED ESSENCE

Specially adapted for the Manufacture of the FINEST

GINGER ALE.

Trade Price, 5s. 6d. per lb.

THIS ESSENCE imparts the FULLEST amount of PUNGENCY with the FINE GINGER AROMA and FRUITY FLAVOURS of the LAST-MENTIONED ESSENCE. THE COST of this Essence in the manufacture of GINGER ALE is 1½d. per dozen bottles, and for GINGER BEER or GINGERADE a little under 1½d. per dozen bottles.

HAY'S GINGER ALE ESSENCE,

HIGHLY CONCENTRATED.

THIS ESSENCE, which is a complete Bouquet of flavours, imparts to *Ginger Beer and Ginger Ale* the true JAMAICA GINGER AROMA combined with the finest LEMON and OTHER FLAVOURS in a highly concentrated state. THE COST of manufacture is about One Farthing per dozen bottles.

Trade Price, 8s. 6d. per lb.

GINGER ALE EXTRACT

Supplies Pungency, Aroma, Colouring and Flavouring. Cost 1d. per doz. bottles,

Price 4s. per lb.

PREPARED BY

W. HAY, Manufacturing Chemist,
4 REGENT'S TERRACE, ANLABY ROAD, HULL.

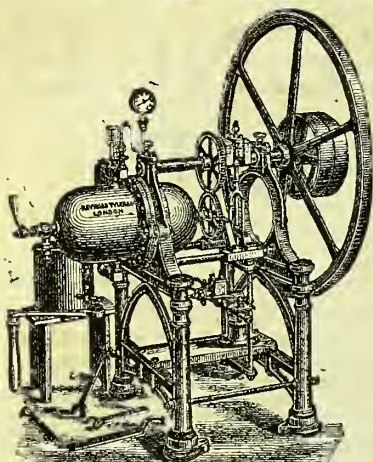
AGENTS:

Messrs. HEARON, SQUIRE & FRANCIS, Wholesale Druggists, 5 Coleman Street, London, E.C.

GOLD MEDAL

FOR

SODA WATER MACHINERY



AWARDED TO

Strong Double Soda-water Machines, with
2 1/2-in. Pumps and extra large Cylinders.

HAYWARD TYLER & CO.

ENGINEERS,

WHITECROSS STREET, LONDON.

ESTABLISHED 1815.

MONDOLLOT & CO., L

BEFORE PURCHASING YOUR

SODA WATER MACHINERY

GOLD MEDAL,

Write for Mondolot's CATALOGUE, which will be sent post free on application.

PARIS, 1878

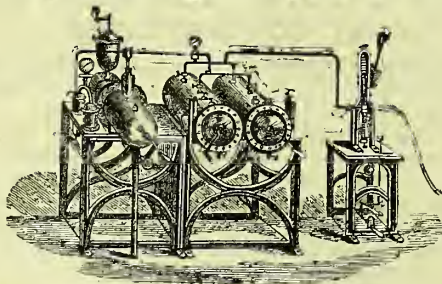
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SODA-WATER MACHINERY

PATENT NOZZLE



FITS ANY BOTTLE.



CONE STOPPER.



BALL STOPPER.



SODA WATER MACHINE COMPLETE, WITH RACK.

DAVENPORT'S NOZZLE AND STOPPER is the best Patent for utilising old Bottles, and converting them into Soda Water Bottles. Patents. No Corks or Wire, and saving entire cost in one season. The New Nickel-plated Nozzle makes this the most attractive Patent in use. Trial allowed. Prices lowered. Send for Samples. New Bottles ready fitted for use now supplied. Catalogues of Soda-Water Machines, Ice-Making Machines, Engines, Boilers, Copper Cylinders, Syphons, Seltzer Water Machines, Filters, &c., and all accessories to the Soda-Water Trade.

AGENTS FOR HAYWARD TYLER & CO.'S SODA-WATER MACHINERY
" BARRETT & ELLERS' Patent Stoppers in Lamont's Bottles.

Illustrated Catalogues, of sixty-four pages, post free to all parts of the World.

DAVENPORT & CO., Soda-Water Machinists and General Machinery Agents,
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PATENT SODA WATER BOTTLES.



BARRETT & ELMERS,

9 DACRE STREET, WESTMINSTER, LONDON, S.W.

We are bringing out some

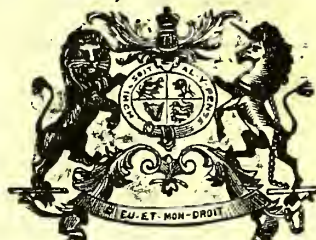
By Royal Letters Patent, Dated June 2, 1874, No. 1923.

NEW BOTTLES AND STOPPERS

FOR THE APPROACHING SEASON,
MUCH CHEAPER,

And with great Improvements on existing Patents.

Before giving your orders, please write for samples.



BARRETT & ELMERS'

ROLLING MACHINES & SYRUP PUMP COMBINED

Have been proved to be

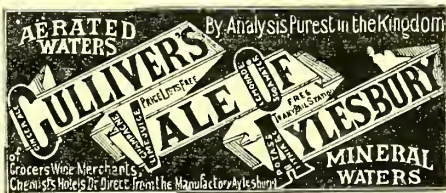
The Best and Cheapest in the Market, of which now upwards of 1,000 have been Sold.

IMPORTANT NOTICE.

Should the Bottles break, the Stoppers may be newly fitted up and used again in fresh Bottles, thereby being a saving and advantage over some other Patents.

AWARDED THE CERTIFICATE OF MERIT AT THE SANITARY EXHIBITION OF GREAT BRITAIN.

SIX DOZEN CASE,
which may be assorted, to
Railway Station for
£s., returned Empty al-
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A Liberal Discount to the Trade,
who should send for Sample Case
before ordering elsewhere.

Full detailed List of Analysis,
Testimonials, and Opinions of the
Press on application.



LONDON, 1862.

LONDON, 1873-74.

PARIS, 1867-78.

VIENNA, 1873.

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CAPE, 1877.

SODA WATER MACHINERY,

And all accessories connected with the business.

HANDSOME MARBLE COUNTER FOUNTAINS,

For dispensing Iced Fruit Drinks.

MACHINES FROM 30 POUNDS.

Sole Agents for Codd's Patent Globe-Stoppered Soda Water Bottles.

In use by over 500 established Soda Water Makers in England alone.

SOLE MAKERS OF THE IMPROVED LONDON-MADE
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Price, with Descriptive Pamphlets, upon application.

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RUTHIN

Soda, Potass,
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For GOUT,
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CORKS BRANDED "R. ELLIS & SON, RUTHIN," and every
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SOLUBLE ESSENCE OF PEPPERMINT

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W. J. B. & Co. caution the Trade against the so-called Soluble Essences now so frequently offered for which are nothing more than mere Tinctures; although offered at lower prices, cost 5 or 6 times much in use, whilst imparting a strong medicinal flavour. W. J. B. & Co. further beg to inform their friends that Aerated Drinks—as Pale Ale, Horeb Beer, &c.—made from their Soluble Essences are exempt from Excise regulations.

NONE OTHERS ARE GENUINE

CAUTION.

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For producing a Permanent Head of Creamy Rich
Ginger Beer, Ginger Ale, Lemonade, and other Aerated
Beverages; also on Beers, Ciders, Wines, &c.

TO MAKERS AND VENDORS OF EFFERVE-
SCENTED DRINKS, AND TO THE PUBLIC GENERAL.

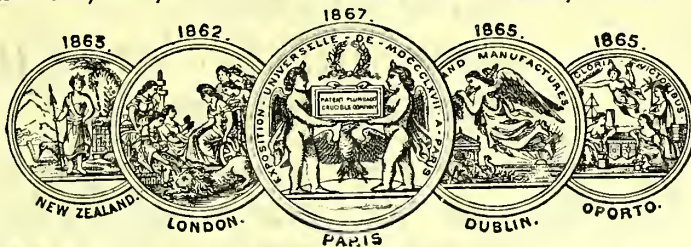
MESSRS. W. J. BUSH & CO., of Artillery Lane, Bishopsgate, London, Manufacturing Chemists, hereby give notice that they are sole proprietors of the patent for making the Gum Extract, and of the recipe from which and the process by which the said extract is prepared. Messrs. W. J. Bush hereby caution all persons against making the said Gum or any imitation thereof. And they also caution all persons from selling or using the said Gum Extract or any imitation thereof other than that made or supplied by them or their authorised agents. The only genuine Gum Extract prepared by Messrs. W. J. Bush & Co., 20 to 23 Artillery Lane, Bishopsgate, London, and the Works, Ash Grove, Hackney, sold in bottles and in tins, price 2s. 6d. per lb., bearing the above Labels, and issued from their warehouses.

*All persons infringing the above Patent will be
Immediately proceeded against.*

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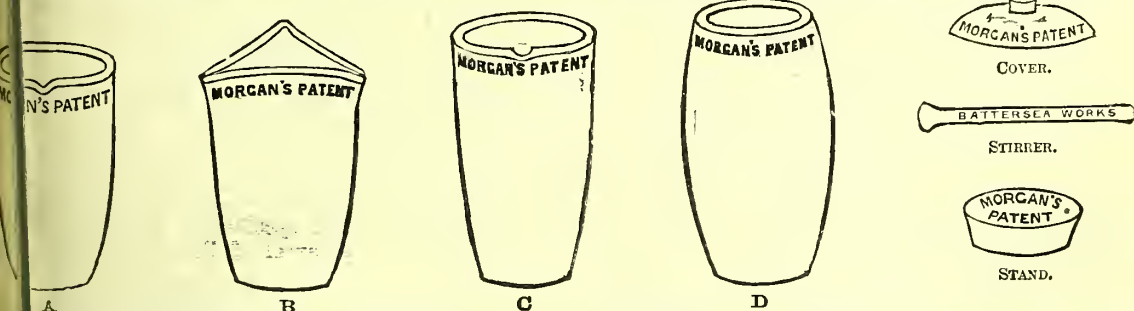
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Crucibles (MORGAN'S PATENT) were the only ones to which Prize Medals were awarded in London, 1862; Dublin, 1865; New Zealand, 1865; Oporto, 1868. They have been in use for many years in the various Government departments of England, France, Germany, &c., and have been used by most of the large Founders, Engineers, Railway Companies, and Refiners at Home and Abroad. The capabilities which have now for so long distinguished

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following:—Their quality is uniform. They withstand the greatest heat without danger. Their average durability for Gold, Silver, Copper, and ordinary metals, is 40 to 50 pourings; in some cases over 100 have been obtained. They never crack, and heat more rapidly than any other kind, heating only required. Change of temperature has no effect. They can, when hot from the furnace, be dipped in cold water with safety. The saving of labour and metal is very great. In *Steel Melting* the Saving of Fuel has been demonstrated to amount to a ton and a half to every ton of Steel. For *Zinc* they last longer than iron pots, and save the great loss which arises from mixture with iron. Those for *Malleable Cast Iron* show an average of several days, doing each day nearly double the work of any other Crucible. These Crucibles last longer than others, it follows that the Saving of Metal must be great, because to each worn Crucible a quantity of metal is lost. In fact, comparing Morgan's Patent with other Crucibles, the *Saving of Metal, Time, and Fuel*, alone is more than equivalent to their Cost.



Made in sizes varying from 2 ozs. to any required capacity, and are marked by the quantity of kilogrammes they will contain—thus: No. 5 will contain 10 lbs. of copper; No. 100, 200 lbs.; No. 200, 400 lbs.; No. 300, 600 lbs.; No. 400, 800 lbs.; No. 500, 1,000 lbs. Differ in shape, but correspond in all other respects with A, and are similarly marked. Made in sizes varying from 20 lbs. up to 300 lbs. capacity, are marked in English pounds—thus: a Crucible marked 60 will contain 60 lbs. Made expressly for melting Steel, in various sizes.

COVERS—Are found of service in many descriptions of melting, the metal being kept free from outside impurities and oxidation.

STIRRERS—Are used by melters of precious metals for stirring and amalgamating.

STANDS—Placed under the Crucibles, hasten the operation of melting, and obtain even bearing above bars.

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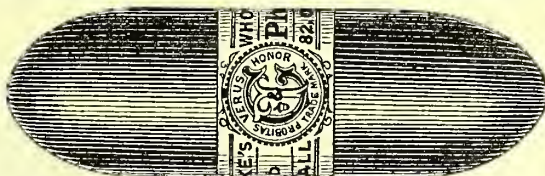
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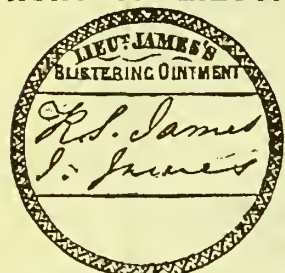
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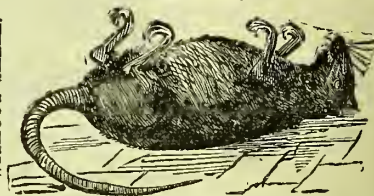
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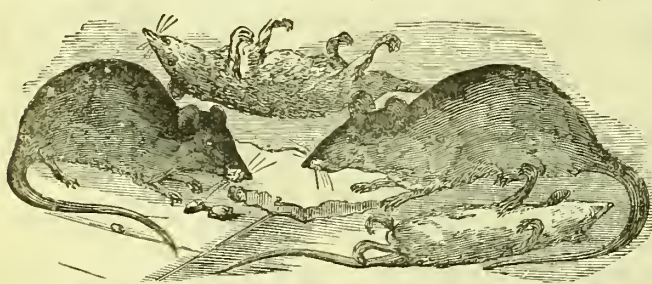
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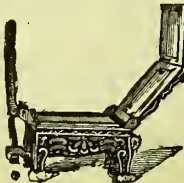
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are guaranteed not to contain a single atom of Lead or any other ingredient calculated to injure the consumer; on the contrary, **THEIR COMPOSITION IS PURE VEGETABLE**; in quality and general appearance they are unsurpassed by any maker, and can be obtained by the gross at £1 16s., less 10 per cent.

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"Messrs. SEABURY & JOHNSON have produced a list of Plasters, all made with India Rubber as a basis, which are elegant, stick well, are easily adapting themselves to the folds of the skin, occasion no inconvenience to the patient, and have the appearance of being made with faithfulness to the British Pharmacopoeia. One Plaster worthy of especial praise is the Salicylated Isinglass: it is flexible, and on being slightly wetted is a good adhesive plaster for surgical purposes."

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The "British Medical Journal," "Medical Times and Gazette," "Chemist and Druggist," and many of the Provincial Medical Journals have noticed our productions as worthy of special commendation. Our improved Pharmacopoeia and Surgical Plasters in India Rubber have overcome all objections found in the use of plasters, and present the following advantages and qualities, which will be appreciated by every Surgeon, Surgeon, and Chemist:—

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Perfect Pliability in any temperature.
Adhesion without Heat or Moisture.
Combined India Rubber Prevents Decomposition.

Being Porous they do not slide or move, thereby ensuring increased local action.
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Our Mustard Plasters are spread on Cotton Cloth instead of Paper.

Our Isinglass, Court, Corn, and Bunion Plasters are all spread with Chemically-pure Fish Gelatine incorporated with Acetic Acid. Fish Isinglass treated by our method of purification ensures an article that adheres quickly by the application of the slightest moisture; and to its more susceptible and greater adhesive properties it is rendered antiseptic.

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	" Arnica	4 0	2 4 0	" " (6 in a package) ..	" 0 6 0
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	" Opium (B.P.) ..	7 0	3 16 0	Salicylated Isinglass Plaster, 5-yard Rolls	Per Roll 0 5 0
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The best active external remedy known, is a great improvement on the slow action of the ordinary Porous Strengthening Plaster, and was specially recommended by American Medical Jurors, as an article of genuine merit. Per dozen, 8s. 6d. 10 per cent. discount. Orders can be obtained from all Wholesale Druggists, Patent Medicine Dealers, and Druggists' Sundriesmen. Complete Price Currents of our Plasters sent to any address on application. Inquiries and correspondence promptly answered.

SEABURY & JOHNSON, 1 and 2 Australian Avenue, E.C.

ENO'S "FRUIT SALT,"

"FRUIT SALINE," OR "FRUIT POWDER."

ENO v. STEPHENS IN THE COURT OF CHANCERY.

Shorthand Writer's Notes of Vice-Chancellor Bacon's Summing-up and Judgment.

Sir HENRY JACKSON, Q.C., on proceeding to sum up in detail on the evidence and arguments in the case, was stopped by the VICE-CHANCELLOR in the following words:—

Sir Henry Jackson, I do not think I ought to trouble you. The case has been discussed at very great length. I confess somewhat to my astonishment when Mr. Hemming declined to adopt the evidence as it was before the Court of Appeal, and put the Plaintiff to prove by the same evidence the same facts which had been proved before, I was under the impression that he meant to call witnesses on his own behalf. If that had been, as it probably may have been his intention at that time, there would have been a reason perhaps for repeating over again at very great length and considerable expense, of course to somebody, the evidence upon which the Court of Appeal had acted—I say nothing about what was done in this Court, but the Court of Appeal had acted upon that evidence. The case, however, concludes, and no evidence whatever is adduced by the Defendant—not even his own statement in his Defence is verified by his own affidavit. What is to be done with a case like that? The whole principle of the case was decided upon the first occasion. The Court of Appeal thought it right to adopt that restriction which I had thought it right to adopt, not to extend the Injunction further than the then present exigency of the occasion required. Not one word of the judgment of the Court of Appeal shows that there should be any restriction, or that there should be any restriction when the case came on for hearing. Now it comes on for hearing upon precisely the same evidence, and the evidence, among other things, is, that in the circular which accompanies this bottle of Salt, the words to which the Plaintiff particularly objects are repeated by the Defendant, and repeated by means of copying the Plaintiff's circular. Mr. Giffard says nobody buying the bottle would think of looking at the circular, for it is enclosed in the wrapper, and not even visible to the eye. But the case is one in which the Plaintiff complains of the general similarity and the general appearance of the names which are used by the Defendant, and if a purchaser entertained any doubt, if he was puzzled for a moment between "Vinous" or "Vinsons," and Eno's—the sounds being, in one mode of pronunciation, very much alike—if he opened the wrapper and read the circular he would say, My doubts are removed; this is what I want—I want Fruit Saline, and here it is—the circular says it is "Fruit Saline."

The Defendant in his statement at the end of the fourth paragraph says he has not "at any time since the month of August, 1877, used the words Fruit Saline, or Fruit Powder, in any label or advertisement or otherwise in connection with the sale of the said preparation." Under the old system if a defendant had put in his answer, as he must, upon oath, he might perhaps have read that passage and said "the Plaintiff's allegation in that respect is denied." The Defence is not put in on oath and the Defendant declines to pledge his oath to that fact. But it does not rest there; for the evidence is clear and conclusive that after the month of August, 1877, when the Plaintiff, not without some degree of forbearance, as it seems to me, was content to take the Defendant's word that he would not repeat that offence which the Plaintiff complained was doing him that injury which he thought he was suffering, he did, in spite of his promise, repeat that which the Plaintiff called an offence and believed to be an injury to him. The case comes to a hearing, the Defendant insists upon the Plaintiff proving his case. At the Defendant's instance the Plaintiff has proved his case, and, among other things, has proved the utter falsehood of that Defence which is set up in the paragraph which I have read. The matter, therefore, is wholly without doubt, without defence, without excuse of any kind that I can perceive, because, when I am told that I must consider what the intention of the parties was, and when I am told, moreover, that there is no evidence that anybody has been deceived, and the Defendant in his defence says nobody has been deceived, his intention to deceive is not contradicted. That is what the Plaintiff imputes to him; and that is what, I think, the Plaintiff establishes not only from the simplicity of the sign, but from the fact that, when the complaint was first made in August, 1877, they were words which the Defendant admitted he had no right to use. For what reason? Because they were calculated to deceive—calculated to represent the Defendant's goods as those which the Plaintiff was selling under the title which he had adopted.

Upon the general case, therefore, in my opinion, the matter is beyond all doubt. It is proved that the use of the word "Fruit" with other substantives, "Saline" and "Salt," and so on, has been made by the Defendant since the time when he promised not to make it, when he admitted it was unlawful, and which I have no doubt whatever was wholly unlawful. It is said that he endeavoured to keep his promise by pasting something over the word "Fruit." Well, if that meant anything it is a plain admission of the justice of the Plaintiff's claim in that respect. But how can I consider that that is keeping his promise? Whether that pasting over was to be effectual or not would depend upon the consistency of the paste or glue, or perhaps the humidity of the atmosphere or any other accident. That there

was no intention to perform his promise, I am satisfied of, and that there has been no performance of his promise I think is clear.

Upon the general case, therefore, I think the Plaintiff is entitled not only to the Injunction in the terms of the Interlocutory Order, but upon those more extensive terms which the Plaintiff asks, by his claim, should be applied to the Defendant's infringement of his rights.

Then there is another subject which is so intimately connected with that that I desired to hear them both together, and I am very glad I did, because, as Mr. Giffard has just told me, that is the main question in dispute between the parties. For the Injunction the Defendant does not seem to care much, though he has violated it, in my opinion, plainly; but he says the question is whether there is a title to register this Trade Mark for which the Defendant proposes to apply. Now that depends upon the words of the Act of Parliament which have been used, the more important of which are "so resembling as to be calculated to deceive." That is a question not to be decided by eyesight; I am invited to lay these two devices side by side, and, since they are not identical and since there are great differences in their external appearance, to decide that they are not calculated to deceive. To that word DECEIVE I have no right to criticise or quarrel with; it is used in the Act of Parliament, and if I were to give one sense to it, it is plainly in my judgment calculated by the Defendant, meant and intended by him, to deceive any person who is not vigilant enough either in eye or in ear to detect at once the difference between Vinous and Eno's, and the difference between Fruit Salt and any other salt, Eno's title being plainly upon his Trade Mark, Eno's Fruit Salt.

It is not, as I have said, by sight; it is not by the use of a microscope; it is by any other means of detecting more or less of resemblance that you can decide a question which the statute contemplates by using the words that I have referred to. But it is whether the Registrar, whose office it is to register, is satisfied before he performs his function by registering the mark, that the applicant's mark does so resemble as to be calculated to deceive. Can any living man doubt that it is not only calculated—that is intended—but that it is also calculated—that is to say, meant and contrived for the purpose of deceiving—else why does he do it? The world is wide, as has been said in the Judgment referred to, and all things in the animate and inanimate world are open to the Defendant to make a device which shall distinguish his goods from those of any other person. But the Plaintiff having appropriated to himself, and enjoyed for years a device in which the principal characteristic consists of a bunch of grapes, with a Latin motto, and the specific description which relates to Eno's Fruit Salt, the Defendant proposes to register a design in which the principal device is the stem of a vine with a bunch of grapes and some leaves, and a Latin motto around it, and it is to be called "Vinous Salt." If there was nothing in the case but the contrast of these two things, it might, perhaps, to some persons, who trusted only to their eyes, be said there was no resemblance between them, or no sufficient resemblance; but the Registrar is bound to take the whole case into his consideration; he is not to be baffled by any mere similarity or dissimilarity. That is not the way that the Court of Appeal, in the latest case that was before it—the Sheffield case—dealt with the question. The Defendant there had as good a right as anybody in the world could have to stamp his own crest or coat of arms, or anything else, upon his commodities. Nobody could dispute it, and nobody, putting the two things together, could say they were so much alike as to deceive. Mr. Hemming insisted that the stamping, being made on a hard metal, was likely to be blurred, and the persons to be deceived. I have a very clear recollection of that case, and I say it would be impossible for a man with eyes, or with one eye, in his head to mistake the device in that case for the device which the Plaintiff desired there to use.

Mr. HEMMING:—Your Lordship will pardon me, I was only quoting the Master of the Rolls.

The VICE-CHANCELLOR:—I know, and have also clearly in my mind what the Master of the Rolls said and what he did not in the "Dog and Forridge Pot" case, but in that case. The Master of the Rolls' judgment takes a wide and comprehensive view of the subject. He refers to the statute only for the purpose of verifying and corroborating that view, but what he said was "an honest man who wants to mark his goods never thinks of taking the device partly or wholly which some other tradesman is employing for the purpose of marking his goods," and that I take to be the true principle of the case.

And, taking all these things together, the Plaintiff's evidence in the first place, the total absence of evidence or statement on the part of the Defendant, excepting the ingenious and elaborate statements which Counsel have addressed to me, there being no statement whatever by him at any time except that he admitted he had done wrong in using the word "Fruit," I am asked to say that there is no such resemblance between those two devices as, between those two men, are calculated to mislead in reference to the commodities tendered in the shape in which they are sent into the world. I think I should be wasting time if I observed further upon it. It is to me clearly manifest not only that there is sufficient resemblance to answer the strictest words of the statute, but that there is a resemblance which has been carefully and intentionally calculated to deceive. And as the Defendant will not pledge his oath to a contrary intention I cannot come to a contrary conclusion than that the Injunction ought to go in the terms in which the bill prays for it, extending it therefore beyond the Injunctions granted on the Interlocutory Order and upon the motion, say that the Defendant is not entitled to register the device of a bunch of a vine with a bunch of grapes upon it, and a Latin motto on it and the name "Vinous Salt." There is an end of it therefore.

Sir HENRY JACKSON:—Well, my Lord, of course I must have the costs. The VICE-CHANCELLOR:—You must have the costs of both.

Other attempted infringements of J. C. ENO'S rights have been stopped by legal intervention, and J. C. ENO publishes the above Judgment in extenso in the hope of deterring all further attempts at similar piracy. He is determined, however, to take legal proceedings without further notice against any one who may hereafter seek to infringe his rights.